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# GARDEN ANYWHERE

HOW TO GROW GORGEOUS CONTAINER GARDENS,  
HERB GARDENS, KITCHEN GARDENS, AND MORE—  
WITHOUT SPENDING A FORTUNE



ALYS FOWLER





**GARDEN  
ANYWHERE**

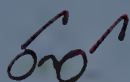






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# The slow track

My best claim to authority is that I love gardening, that I am passionate about plants, and that I love dirt and the world around me. But there was a time when this passion drove me elsewhere. One day I found myself sitting at a computer and I lost the plot. Literally lost it, the place where I should have been—out in the dirt growing instead of writing about how others should do it. I'd become someone that would sooner talk about plants than grow them and it needed to be the other way around.

It's an uneasy feeling knowing you're not where you should be. I had a dream job making TV shows about gardening; this was supposed to be where it was at, but it wasn't. To cut this story short, I changed jobs and went back outside. I met some guys I truly love working with, found a place where I could grow and cook, and slowed right down. I joined up as a fully fledged member of the slow movement. I ate slow, travelled slow, gardened slow, and even slowed down my bank account. Once I stopped separating my work from my identity, it all fell into place.

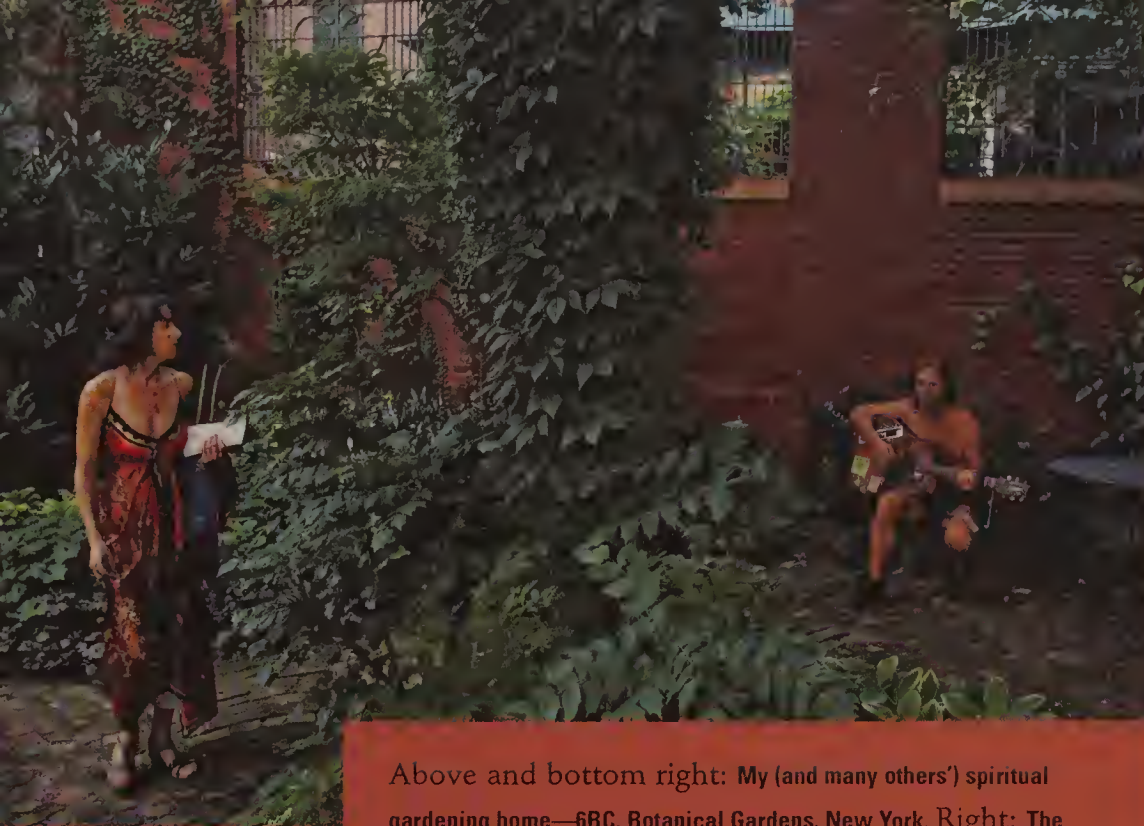
This much I've learned. Gardening is something you do, not something you buy. You don't have to spend money to have a great garden. Slow gardening, like slow food, is taking time to savor. It's the process, not the sudden transformation, that matters. When you build a little, dig a bit, plant a little, harvest often, and, more important, don't try to do it all at once, nature works with you.

If you find the right plant for the right place, your hardest job is done. Don't try and make a Mediterranean garden if you live somewhere sodden; don't aim for the tropical, if you are somewhere cold. Life has enough pressures without bringing them into the garden. Learn to garden for wildlife as much for yourself, make compost and leaf piles and let nature look after your waste. If you do all this, relax a little, then do a bit more, you'll find you've slowed down enough to really enjoy your garden, wherever it is.









Above and bottom right: My (and many others') spiritual gardening home—6BC, Botanical Gardens, New York. Right: The Lower East Side in Manhattan is home to many community gardens, each offering a slither of green calm. Bottom left: The Lower East Side teems with gardening life even if it happens on the street.





# Scrap craft

When I was nineteen, I moved to New York to work at the New York Botanical Garden. I'd never lived in a city before. I was at once entranced and terrified. After what, at the time, I considered a dull country upbringing, the city pulsed with excitement. Yet I couldn't quite accept that I wouldn't have a green place of my own there.

I really searched that city for somewhere to live. When I had almost given up, I wandered into a neighborhood where every second block seemed to be a garden. I didn't really know where I was, except that I had to stay. I rented a room from a friendly hippie with a top-floor view over all these lovely gardens. One of those gardens was to become my home for that year. I had found a community that was making beautiful gardens literally from the street. This period was perhaps more influential than much of my formal training as a horticulturist. I fell in love with the ethic, thrift, and spirit that thrive in such settings. But mostly I learned how to scrap craft with great effect.

Scrap craft is when you reuse or recycle unwanted items into something useful. It starts with "I wonder if I..." and the end result is all sorts of cool stuff for the garden. Floorboards turn into compost bins, a chest of drawers becomes your new container garden, and someone's unwanted furniture your new patio table.

It's a way to personalize your own environment without it costing the earth. It's an independent cultural ethos far removed from our commercially driven world.

By being practical and having a set of skills, you can make your world around you, rather than buying someone else's bland version. It's very addictive, partly because there is nothing more satisfying than being able to say "I did that". You start to make stuff that suits your home and the way you actually live. And

instead of the impersonal elegance or, worse still, the mass ugliness of manufactured things, you get something that says and has a little bit of the spirit and personality of its maker—something made with your own hands for your own pleasure.

Our modern world has become very unrewarding—that long commute to nowhere with the only treat being a shopping trip on the weekend. When you grow your own vegetables, make your own teas, or recycle your kitchen waste in a bin that you made, you are taking control. You are rewarding yourself instead of waiting for someone else to. You are transforming your world by your rules and, by expressing your life creatively, the unexpected thrives. The best stuff so often comes from the most limited resources. It will take time to find all the boards, beams, and screws when you're going after salvage, but it beats going to a store and buying something with no character.

Whatever you end up creating and growing in your garden, find your own way of doing it, and enjoy the process. If you learn anything from this book, it should be that you can grow something; it can be anything, but your world will be even more enriched if it is something that you can sup or sip.



From  
the  
ground  
up







# Where are you going to garden?

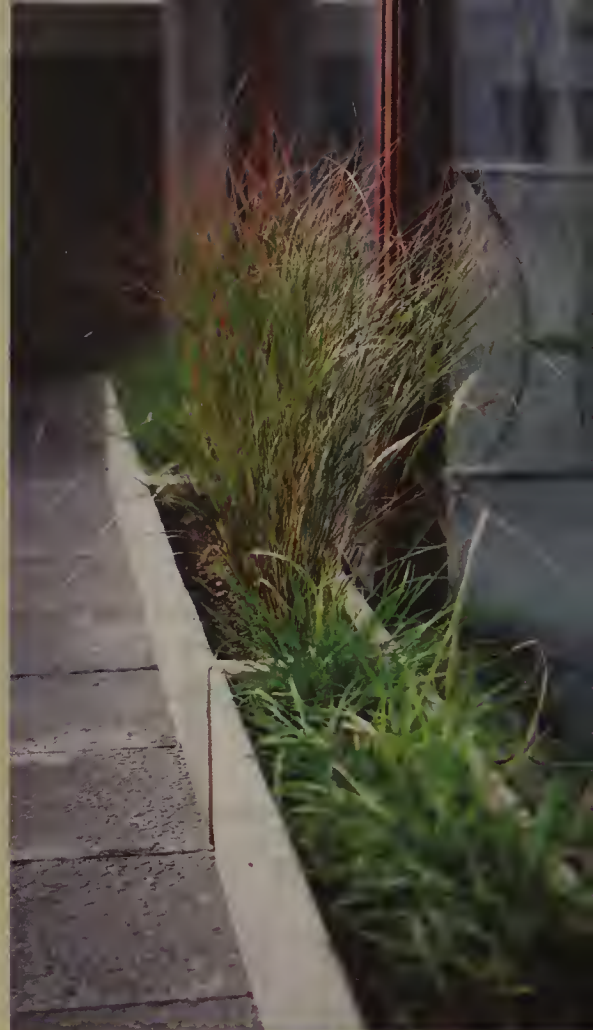
Before you can grow anything, you need to work out where you're going to do it. If you're lucky you will have a dedicated garden space, but if your garden is not instantly identifiable because it doesn't start from your back door, then you might need to do a bit of lateral thinking.

There are all sorts of places to garden. If you're on the top floor of a north-facing apartment with no window ledges, then you'll need to borrow your space from elsewhere. If you've got great big windows and plenty of natural light, then you could garden indoors, or maybe you'll have to find some other shared plot. Many older houses and apartments have huge stairwells with a large window begging for at least some spider plants. Or there may be a sliver of land behind the building you're living in; it may be concreted over and housing nothing but trash cans, but with a little effort you could turn it into a garden. Community gardens, fire escapes, porches, tiny front gardens, windowsills: all can be put to good use. There are few limitations for those prepared to dream and experiment.

Whatever your space, if you're new to gardening a good way to start is with a few containers. The conditions are controlled and, as long as you remember to give the plants light and water, you're bound to succeed. Even if you just have a couple of houseplants, a pot on a windowsill with a few herbs in it, or a single tub by your back door, it's a start, and once you have got the hang of a small project you can start tackling bigger ones. You'll find that gardening is a bug that bites quickly. You may have just one pot one day, but before you know it you'll have plants all over the place.

A few key things need to be looked at before you get growing, whether you're starting indoors or out. First, assess how much light you've got, which also determines how hot it's going to get. You cannot grow shade-loving plants in full sun, nor can you do it the other way around. Knowing your light conditions is half the battle. If you're gardening outdoors, even in containers, you also need to think about shelter. Balconies, for example, are very windy, so you will need strong, tough plants that can cope with drying out and won't snap—a good tip is to look for plants that naturally grow in the same exposed conditions, seaside plants happily adapt to life on a balcony.

All plants need water, so you will need a source of water and something to water with—a hose, a bottle, jug, or watering can. And all plants need to get their roots into material to grow in, so if you're not gardening in the ground you will need some kind of potting mix for your containers.







Left: A tiny vegetable patch in a front garden—pretty and tasty, too. Opposite page: Wind-swept balconies need tough plants such as grasses (top). California poppies (*Eschscholzia californica*) take advantage of even the smallest pockets of soil (bottom).



# Design with love



The single key to a stylish garden is love—it's that simple. My work has taken me from grand designs and tiny courtyards to balconies and sprawling backyards. I think I can safely say I've seen a lot of gardens. The ones that made my heart sing, the ones I can still recall in great detail, all had one thing in common—the people who made, tended, and lived in them truly loved them.

Of course, some elements are more stylish than others, and to my mind, some plants beat others by miles for elegance and some are definitely cool. Cheap, ugly furniture, piles of old plastic pots, old concrete paths and such definitely don't contribute to a stylish space. But on the whole, it's doing your own thing—passionately—that makes a garden work. You need to decide what your style is and work with it. Half the battle with style is adopting the right spirit and following it through with conviction. If plastic gnomes

and flaming bedding plants happen to be your thing, don't let anyone put you off—just go for them unabashedly.

Being fashionable is risky. Fashion is about selling magazines, so what's 'in' one year is going to be 'out' the next. If you think back to those popular '90s' gardens that were all decking and blue gazing balls, you get the point. The only cast-iron rule is to choose the right plant for the right place; there's no point trying to grow sunny plants in shady places, or putting plants that love dry conditions into heavy, wet soil. Otherwise, do your own thing, be a little daring, and be inspired. Confidence and originality will win out in the long run.

**Above: Take time to get to know your space—observation is your most powerful design tool. Opposite page: Do a little at a time. Start designing from the back door and work outward.**





## Principles and practice

Having said that, some design formulas are definitely worth looking at. You don't have to abide by them, but the old mantra "learn the rules before you break them" stands true. All good gardens follow six golden principles—repetition, variety, balance, emphasis, sequence, and scale—in one way or another. On top of these are secondary elements of color, texture, form or shape, and smell. These ideals apply as much to a collection of containers as to any scale of garden.

If you inherit a garden you may find its creators got some basics right and an awful lot wrong. A strong design philosophy is all very well when you have a blank canvas to work from, but it's not so easy when

your garden already expresses someone else's design. The best principle of all is always to work slowly.

Never take on the whole garden at once. Start from the back door and work outward. Take the lawn for instance: you may well have far more than you want, or it may be in the sunniest place that you might prefer to use for vegetables or flowers. But don't rip it all up at once as that would mean a lot of work digging and weeding. Take it up as you need the space.

Follow the same approach when you're buying plants—take it easy. If you run to the garden center and max out your credit card on big plants, you may well come home to find they don't like your windy





Top: Understand your plant's needs. These California poppies crave sun. Above: A winding path reveals the garden slowly. Opposite page: Use texture, color, and height to give a space body, such as these grasses, see-through *Verbena bonariensis* (right) and *pennisetum* (left), which beg to be touched.

site or aren't suitable for the afternoon sun. Good design takes time, and that time should be spent learning about your space, your soil and the different aspects of your garden. Discover how the light changes your garden in different seasons, find out how hot it really gets in summer and how much shade falls as the day progresses. Don't rush observation, which is your best design tool of all.

### Playing with your space

How you divide your space really matters. All good gardeners know not to show the whole space at once; it's really important to keep an element of surprise. The easiest way to do this is to have a winding path that will reveal new elements around each meander. In a postage-stamp space, you could get the same effect by cleverly placing mirrors to make it look bigger, or by using vertical spaces for hanging or climbing plants.

You can also use verticals to break up space so you can't see the entire garden from one point. Don't be afraid to use tall plants at the front of smaller ones; it adds intrigue. *Verbascum*, fennel, and *verbena* are examples of tall, see-through plants that add height to plant combinations.

Always plant in odd numbers. Odd numbers of plants always look better than even; it just looks more natural. Check out Mother Nature's own planting style and you'll find a great mass in the middle and a few trailers on either side (weeds growing in wasteland all fall into this pattern). This is called a drift. If all you were ever to do was to plant drifts of pleasing colors in your garden, it would look fantastic.

Stick to a very simple palette of hard landscaping materials, but don't rein yourself in when it comes to color. An all-white garden may be classic, but a little rule-breaking can be a lot of fun. Friction can work wonders and clashing colors can be very cool. Although bedding plant schemes can smack of the worst of dull municipal planting, if you plant bedding annuals in great masses and allow them to run riot they can look fantastic.

Always remember that your plants' needs come first, not yours. However lovely you think a combination might be, if the plants don't grow in the same conditions it's just not going to happen. You can't plant shade lovers next to sun seekers, and there's no point matching your spring bulbs to your roses because they are never going to appear together. If you want combinations to work, they need to flower at the same time.





## The golden principles of design

**Repetition:** By using a repetition of color and form, you create movement and flow through the space.

**Variety:** Choosing a variety of textures and shades of color will create an element of fascination and intrigue, so that the eye will want to keep looking around.

**Balance:** A balance of different elements will create

harmony within the space. For example, if you use bold, clashing colors, set them against a calming background of green to harmonize the combination.

**Emphasis:** The key to emphasis is to keep to a fairly strict use of elements and play them off against each other. This simply means using one element to emphasize another, for

example, calm colors such as matt green leaves will highlight interesting stems or bark. Although clashing colors clearly emphasize one another, more subtle hues of the same color will emphasize brighter ones in a less garish way.

**Sequence:** How do you physically move through the space? Where does this path lead? What's around that

corner? It is about using certain elements to move you toward a focal point.

**Scale:** You need to consider the context of your space and match the scale of object to that. Putting a tiny alpine plant next to a huge bamboo will make everything look out of scale.



# How to choose a plant

Finding the right plant for the right conditions sounds easy but in practice it can be difficult. I confess that I have a great mass of plants by the back door that I couldn't resist buying or taking on, even though I didn't really have appropriate places to put them.

There is often a yawning gap between where you would like a plant to go for aesthetic reasons, and where it really should be put. If you find yourself having to justify a site too forcefully, take a reality check—you're probably just sending that plant to the compost bin. You're also burning a hole in your pocket.

When you go to the garden center, there are a few things you must think about before you head for the checkout. The two most vital considerations are what sort of soil the plant needs, and what sort of light conditions. You can meddle with your soil to make it suit the plants' needs, to a degree. *How Does Your Garden Grow?* gives you the lowdown. But you can't fiddle with light conditions. You either have sun or you don't.

## Light matters

All plants need light to make food. Most labels or books tell you how much light a plant needs. These levels are broken down into four categories—full sun, partial shade, light or dappled shade, and deep shade.

Some plants are flexible and can be placated with approximately the right light conditions, but some plants are adamant. A plant that likes full sun can be placed in partial shade, but it will give you fewer flowers and grow slightly lankier stems. A plant that likes partial shade can just about hack a life in full sun as long as its feet are moist during the growing season, but it won't be entirely content. Anything that prefers to grow in deep shade will curl up and die if forced to live its life in the sun, and a plant that needs sun will



Above: Hollyhocks (*Alcea rosea*) love full sun and well-drained soil and grow up to 8ft. so they're perfect for hiding ugly walls or as features in baked spaces.

## Get the light right

**Full sun** means that plants are exposed to the sun without any shade for most of the day on sunny days. Plants that do well in these areas include drought-loving Mediterranean or desert plants, prairie or meadow plants, and alpine.

*Lavenders* (*Lavandula*) love baking heat, but hate wet feet in winter, so make sure you've got good drainage.

*Jerusalem sage* (*Phlomis fruticosa*) has furry, gray leaves to trap air and moisture and beat off the midday sun.

*Ice plant* (*Sedum spectabile*) has dense, flat plates of tiny, star-shaped pink flowers in late summer and thick, fleshy leaves to hold moisture on even the hottest days.

**Partial shade** refers to areas that are shaded by buildings or trees and shrubs for up to six hours on sunny days. Partial shade is the easiest to work with and many plants

thrive in these conditions. Most gardens are in partial shade and only really committed sun- or shade-lovers fail in these conditions. Shade that lasts only for three hours or less is particularly good for flowering and fruiting plants.

There are huge amounts of plants in this group, some easy examples include lady's mantle (*Alchemilla mollis*) with lovely foliage and acid green flowers, aquilegias or columbines, and foxgloves (*Digitalis*).

**Light shade** is often used to describe shade cast by trees, shade that is dappled and creates a moving patchwork of light and shadows.

**Dappled shade** usually exists only from late spring to early autumn; once the leaves have dropped from the trees the area will be in low winter light. Light shade is most suited to woodland plants in the summer and spring bulbs that finish flowering before the trees are in leaf.

*Wood anemone* (*Anemone nemerosa*) is a low-growing perennial that creeps along the woodland floor. With lovely, showy, white flowers, it makes the most of what spring sun it finds.

*Bleeding heart* (*Dicentra spectabilis*) is a showy, clump-forming perennial that flowers in early summer. Striking, nodding, heart-shaped flowers have rose-pink outer petals and white inner ones.

**Deep shade** is usually caused by tall buildings or dense, evergreen vegetation. Little or no light reaches these areas during the growing season. A good example is at the base of an evergreen hedge, such as Leyland cypress (x *Cupressocyparis leylandii*) or below a north-facing, tall building. Few plants grow happily here, except some ferns and woodland plants.

*Lamium galeobdolon* 'Silver Spangles' takes brutal dry shade in its stride.

*Hedera helix* 'Glacier' is a variegated cream and silver ivy that toughs it out against shady walls.

*Euonymus fortunei* 'Emerald 'n' Gold' or 'Silver Queen' are both candidates to send plant snobs into hysterics. They're also extremely invasive in sites where they receive adequate light and water. They may be garish, but they are also wildly adaptable and take on any conditions except waterlogging. They can even be sculpted into hedges.

*Lesser periwinkle* (*Vinca minor*) is an invasive beast in most gardens, but if your city back garden is nothing but thin soil and shade you may be grateful for it.



# Surviving the garden center

Like any shopping experience, it's easy to get whipped into a frenzy of buying at the garden center and come out with lots of things you neither want nor need.

Personally, if you are going to spend money anywhere in your garden, I think it should be on plants, as long as you choose wisely. Even a special plant usually costs less than a pizza for two or a night on the town and those will be gone in a matter of hours. A well-loved plant can be with you for years, a lifetime or even beyond. However, thrift is at the heart of this book, and you should never spend money where it's not needed.

## Check the label

When you're choosing plants, the first thing to check is what's on the label. A good plant label tells you an awful lot. Unfortunately, there are a lot of bad labels out there. Every label should have a Latin plant name and, where appropriate, a common one.

We have Carl Linnaeus to thank for universal Latin names. He was an 18th-century Swedish scientist who loved order, so he came up with the binomial naming system that we've used ever since. He gave every plant a family name (genus) and a first name (species). Take the snowdrop (this is its common name). Under the Linnaean system, it is called *Galanthus* (genus) *nivalis* (species). Often the species name hints at what the plant looks like or where it grows, so *nivalis* translates as 'snow-like.'

Naming starts to get a little more complicated, as both nature and humans meddle with things. You start with a species, then nature decides to dabble and you get some variants that have occurred naturally. These may be considered distinct enough to warrant a name, and are often prefixed by the letters 'subsp.' meaning subspecies, 'var.' meaning variety and 'f.' meaning form.

## What's on the label?

Every label should have a Latin name and a common name, and ideally will tell you something about growing conditions, sun, shade, etc. and a little about the color, size, and shape.

*HHa* means half-hardy annual. This means the plant needs heat or it will sulk. It will be around only for one season.

Cosmos and many salvias are good examples. They originate from Mexico and germinate in hot, moist conditions, flower in late summer and autumn, and are killed off by the first significant frost.

*HA* is a hardy annual. These are tough as old boots, but short-term guests who are also only here for a season. For instance, love-in-the-mist (*Nigella damascena*) is sown in autumn, grows slowly over winter, and flowers by late spring.

*Bedding plant* describes a plant that is used en masse for a showy, but temporary display. Think pansies and tulips, petunias and pelargoniums.

*B* means biennial. This sticks around for two years, and may seed itself to spring up elsewhere for another two years. The foxglove (*Digitalis purpurea*) spends year one as a rosette of leaves and year two as a towering purple spire, then seeds itself all over the place.

*P* is perennial. Perennial plants are here to stay unless the label says 'short-lived perennial,' in which case it may last only three years or so. Examples of long-lived perennials include hardy geraniums, day lilies (*Hemerocallis*), peonies (*Paeonia*), and balloon flower (*Platycodon grandiflorus*). Short-lived perennials include columbine or granny's bonnet (*Aquilegia*), delphiniums, Iceland poppies (*Papaver nudicaule*), and pinks (*Dianthus*).





The difference between these is semantics at this level, you just need to know they have occurred naturally. When humans decide to dabble, we create cultivars. These are selected, and artificially raised, distinct variants of the species, and we like to give them vernacular names such as ‘Pusey Green Tips’ (*Galanthus nivalis*).

## Horticultural lingo

Labels rarely have very detailed information. To make sure you’re choosing something that will suit your space, ask a nursery employee; they should be able to tell you more about a plant’s needs and how it grows.

## Euphemisms

- 🕒 *Prolific self-seeder* is a plant that will make its way into all sorts of unwanted places. If it weren’t pretty, it would be called a weed.
- 🕒 *Rampant* means that it will quickly colonize an area, usually by spreading roots, and you may spend the rest of your time pulling it out.
- 🕒 *Tender* usually means it can’t cope with temperature less than 40°F.

## Health check

Make sure your plant is in good condition and worth paying the full price for. Leaves should have a good green color, no brown tips, no curling edges, no brown or black spots, and no necrotic bits (that means dead bits in the middle or edges of leaves).

There should be no bare stems on a plant, unless it’s winter, and no damaged tips or broken stems. The soil should be clean, with no green mat growing on the top—that means it’s been sitting around too long.

Make sure there are no obvious signs of pest damage—so no munched bits (particularly at the edges as this is a sign of vine weevil, a hideous pest that loves

garden centers), no eggs, no critters running around, no webbing, and no sticky residue on the surface of the leaves since this means aphids.

If a plant is small enough to handle, take it out of the pot and check the roots—any garden center that stops you from doing this isn’t worth visiting. There should be healthy, white roots and plenty of soil visible. If roots are spiralling around a hard, central core of soil, this means the plant is rootbound and has sat in the pot for too long. Rootbound plants have a hard time getting established in the garden and often die.

Don’t be too seduced by flowers. Although we do it all the time, plants don’t actually respond brilliantly to being planted in flower. Plus you’ll get more out of a plant that’s not flowering its socks off because you’ll get a longer display.

## Size and space

Some growers plant lots of young plants together in a 1 gallon pot to make them look like a single, more mature plant. If you are careful and gently tease them apart, you can often get three or more smaller plants. They’ll need some love and good soil, but they’ll thank you for their new space and grow quickly. This is sometimes done with perennials, and always with house palms, when growers germinate up to ten or so seeds per pot. The young seedlings grow up together to produce an impressive thicket, but after several years they all look very unhappy, as they have no room to grow. Instead of waiting for this to happen, repot the seedlings into large 2 gallon pots, with no more than five seedlings per pot, carefully spaced apart.

Opposite page: Three *Primula denticulata* have been squeezed into one pot to make a bigger-looking plant. Carefully tease the individual plants apart. Next plant each into their new home with good-quality potting soil. Sit back and admire your thrifty work.







### **Bargain hunting**

Many garden centers have a reduced-price plant area. You'll have to hunt to find it, usually tucked away at the back. Here the plants are probably covered in liverworts (the green mat on top of the potting soil), and they may be struggling a little with life. But with love, some new soil, a trim to shear off dead stuff, and a little feeding, you'll be surprised what will grow. Try always to knock the plant out of the pot before you take it home to make sure that there are no white grubs or small, evil-looking weevils with shiny shells hiding inside. Those are probably vine weevils and you don't ever want to let them near your garden.

Shop around. I know it sounds obvious, but for some reason people don't seem to do this with plants. So many growers offer mail-order plants online, so do a price comparison. It's not only garden centers that offer seeds these days—you can find plants elsewhere too. Check out dollar stores, supermarkets, and hardware stores. Look out at yard sales. If you want home-grown plants, the Internet is a good place to look for independent growers and small specialist nurseries. Plant fairs are good for unusual stuff; your local one may advertise online. Some supermarkets sell amazingly cheap houseplants and sometimes genuinely interesting low-cost bulbs.





Opposite page: A good garden center will offer clever design combos, but make sure you know the final size of each plant. The eucalyptus at the back becomes a huge tree if not pruned. Left: Check the quality of each plant for good color and growth. Below left: Young plants often establish better than mature ones in flower.





# The renter's garden

Renters tend to get the worst deal from gardening and, unless you're going to stay for a while, putting lots of effort into a weedy, overgrown patch can seem a little pointless. Think of it this way: it's not just good exercise but also, if you leave the garden a nice place, then the next renters may have a go too—consider it renters' pride. I spent months rescuing one garden only to find the next lot of renters completely uninterested. I felt completely disheartened, but I cycled by recently and found new renters had moved in and filled all the pots I'd left behind with new flowers in the front. I hope they found the veggie garden. I'm still very proud that I cleared that garden of weeds.

Another option is to have a container garden that you take with you. But if you have some ground and want to have a go, some plants are cheap and showy enough to gloss over the problems of a renter's garden.

## Budget bulbs

In autumn, all kinds of shops, from DIY stores to supermarkets, offer great bags of mixed daffodil bulbs. These bags contain daffodils in all sizes and shapes, although most will be the large, bright yellow, trumpeted kinds—but they are truly lovely when you cut them and take them inside. As they're so cheap, you can indulge yourself and treat them as cut flowers.

Provided that your soil passes as anything near garden quality (more in chapter three), daffodil bulbs will grow, even through the lawn, so you can plant them in great drifts and mow them away by the time you want to sunbathe. The easiest way to determine how deep to plant a bulb is to dig down roughly three times the depth of the bulb. If you plant daffodils too close to the surface, they often fail to flower.

If you've got the space, in order to make a display look as natural as possible, put your bulbs in a bucket

and then throw the contents as if you were getting rid of water. A mass will land together, a smaller number will make it farther, like trailing stars. Wherever the bulbs land, plant them. In lawns, cut out three sides of a square and hinge back the turf, chuck in a few bulbs and firm the turf back again. In beds and borders in soft autumn soil, just put your fork in and wriggle to make a hole big enough to put the bulb in.

Price is a good indication of how easy the bulb is to grow: the cheaper the price, the easier it tends to be. The best bulbs go first, so as soon as you see garden centers and supermarkets stocking them, start buying—the bigger the bulb, the better the flowers. A good healthy bulb feels plump, firm and not withered, has no signs of damage and no mold growing on it. If it's squidgy, it's probably going to rot in the ground. Don't wait around to plant them. However, if you've got lots to plant, leave your tulips till last, just make sure they're in before the end of December.



## Bulbs to look out for

### Flowering January to March

Plant spring- and early summer-flowering bulbs in autumn. *Snowdrops* (*Galanthus*) are technically better grown "in the green" (meaning you plant them with leaves on), but I've never seen these in a city. Buy dry, buy cheap, and be patient as they may take a little time to get going.

*Crocuses* are as cheap as chips and can be grown in grass, so they make the lawn a little more interesting. Once established, they slowly colonize a lawn.

*Muscari*, or grape hyacinths, are very early flowering bulbs, with flowers that look like small bunches of deep blue grapes. They like an open, well-drained site.

### Flowering April to June

The trick with cheap *tulips* is to treat them like bedding plants as they tend not to flower well the following year. Plant them near the surface, 2 to 3 inches deep, then they are easy to pull out once they've finished flowering.

*Hyacinths* are so easy you can grow them in pure water. Cheap mixed packs of hyacinths are for the brave as you'll get lots of very garish pinks and purples as well as blues. More restrained gardeners should only go for white or blue cultivars.

### Flowering July to September

*Cyclamen hederifolium* is good for dry areas of the garden and are only hardy to Zone 6. They are best planted under trees or shrubs. Often sold as dry, flat discs, the bulbs can take time to establish, so if you're not staying more than a year or two, consider them as presents for the next lot. Once the bulbs get established, they'll self-seed all over the place. Plant them as soon as you see them for sale, usually in late summer.

### *Autumn crocuses*

(*Colchicum speciosum*) have very striking, large crocus-like flowers. They need full sun and well-drained soil. Plant these in summer or early autumn.

### Flowering October to December

*Crocus speciosus* grow very happily in areas that are dry in summer, preferring full sun and happy in gritty soil. Good for poor, urban soils, these flower in late autumn as soon as soil temperature drops and moisture increases. Plant them in late summer.

Opposite page: How to create a natural-looking drift of bulbs.

Put the bulbs in a bowl and then toss them out. Wherever they land, plant them. Right: Daffodils can look a little municipal, but they are lovely in vases and will make shabby grass look vibrant in spring.





## Unfussy candidates

With all plants, it's a good idea to clear weeds as much as you can before planting or sowing. But if you really don't have the time and energy to convert a neglected patch into a perfect growing space, some plants are tough. With a little love at the early stages, some food and a little water, they will quickly start to out-compete weeds and transform your rented patch. Annuals grow fast and establish quickly, so if you're only around for a season or two, choose nasturtiums and poppies.

*Mallows* are tough, long flowering and unfussy. They range from vigorous, easy shrubs, such as the pretty tree mallow *Lavatera x clementii* 'Barnsley' to appealing annual varieties, such as *Lavatera trimestris* 'Loveliness'. This old variety has seen a comeback in recent years and will hold its own against most weeds. It's a big, upright plant that will grow to 3ft. tall, with lots of lovely showy, saucer shaped, deep pink flowers. Sow the seeds in mid to late spring, 6in. apart in furrows (ridges of seed-friendly soil) with 12in. in between rows. Mallows make an impressive display even on poor soil and their bulky foliage helps to keep further weeds in check. If all you manage in your first year is a few mallows, you won't be disappointed.

*Cosmos bipinnatus* is a tough, resilient plant that will flower late into the season. Its blousy, slightly old-fashioned cup-shaped flowers come in shades of pink, crimson, and white. It is fairly tall, growing up to 4 to 5 feet, and branching, which means you get lots of flowers, but in wet, windy summer weather its plants are liable to snap. Either grow *cosmos* among other sturdier plants that will hold it up, such as Black-eyed Susan, or staked, as it is very disheartening to find the plants flopped on the ground just as they are about to flower.

There are many varieties out there, the cheapest are mixed colors; 'Sensation Series' is a good reliable version or you can buy in single colors. I'm most fond of 'Purity', a tall, pure white form that's most elegant. 'Sonata mix' is a common find; it's a compost knee-high variety in pinks and white. It's a better choice for windy locations or small spaces. 'Sea Shells' has fluted petals and can be either bought as single colors or mixed.

You can either sow direct in late spring once the danger of frost has passed or, if you want to get ahead of the game, sow in flats indoors. The seed

Opposite page:  
**Shrubby perennial**  
*Lavateras* grow quickly and flower from mid-summer to autumn. Grow in a sunny, sheltered spot with well-drained soil. Particularly good for front gardens in polluted areas as these guys are tough.







Right: Wherever the seed is scattered in sunny spots, the corn poppy (*Papaver rhoeas*) makes its home.



germinates at 61°F. Many people swear to pinching out the young seedlings to get a bushier plant, but I often find this results in too many branches and you get a weaker plant liable to snap at the lightest winds.

The trick with *cosmos* is to keep them flowering for as long as possible, and the best way to do this is to deadhead them often. Those that don't get deadheaded will often self-seed themselves around, which is a lovely bonus, except when you've sown white ones which often revert to a muddy pink—still they're free I guess.

Black-eyed Susan is such a sign of summer it is easy to see why it's a firm favorite. It's a reliable bloomer in drought or wet conditions and is happy enough in a planter or the dirt. It is often grown as an annual, but in the right conditions will come back for another year or so. The large daisy-like flowers with a prominent black center appear from mid-summer to autumn. It's a stout plant that needs no staking and will take a great deal of abuse. Sow two weeks before the last frost in the ground or get a head start indoors; seed germinates at 61–64°F. There are many varieties out there, from pure buttery yellow to rustic reds. My favorite is 'Rustic Dwarfs,' a mix that comes in gold yellow, reddish brown, and a bronzed orange. They make excellent cut flowers.

### *Single and double Shirley poppies*

Forms of the corn or field poppy are *Papaver rhoeas*. Sow the two types together for a long display. Look out for the salmon-pink strains of Shirley poppies because they blend in well.

*Nasturtiums* will scramble over the worst weeds and will take the thin, baked soil of many back gardens. They're as cheap as chips from seed and there are weird and wonderful varieties out there. I think the deep red colors are really quite glamorous.

It's hard not to fall in love with hardy *geraniums*. These should not be confused with their cousins the *Pelargoniums*, which are less hardy and grow indoors. Hardy *geraniums* are a little bit of a step up in the garden world, a little more discerning but, boy, do they work hard. They can withstand shade, but most don't mind taking full sun, which makes them great for urban gardens that bake half the day and then spend the other half in the shade of buildings. They don't mind dry conditions and, given a little love, will flower their socks off. Give them a Chelsea chop (see page 124), cut them right back by the end of June, and they'll flower right through to October. It's a large genus

and there is at least one variety for every garden, whether small, large, damp, or shady.

*Geranium macrorrhizum* naturally grows among rocks and scrub, usually in the shade, in the mountains of Europe. All this means it's perfect ground cover—meaning less weeding—for dry shade in the garden. It spreads to 20in. tall and 24in. wide with pink to purplish-pink flowers and aromatic foliage that turns red and yellow before it drops in autumn. *Geranium x cantabrigiense* is another excellent value plant, growing to 12in. tall and 24in. wide. It has slightly scented bright pink or purple flowers and creates a dense carpet of light green foliage. It's good for ground cover in sun or shade and flowers from June to July. *Geranium phaeum* 'Album' is another good plant for shade or semi-shade. It grows into tall clumps, 32in. high and 15in. wide. It flowers from May to June, with a second flush later if left to its own devices. The leaves usually have rather attractive, purple splotches on them. I prefer the white-flowering 'Album' to the straight *Geranium phaeum*, which can be a bit of a muddy, cheerless shade of purplish red.



No-  
garden  
gardening





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## Container choices

Containers laugh in the face of anyone who says they can't garden because they haven't got space. With a few containers, you can make a garden on a balcony, fire escape, or roof-top; in a concrete courtyard or in those weird, unclaimed spaces at the backs of offices. If you're renting, containers give you the chance to indulge in gardening, then take the whole thing with you when you move on.

Many of us start our gardening love affair with containers and it's a great place to begin because you can control the conditions. Sometimes you may have space outside your home, but may still prefer to garden in containers. They allow you to have a garden even if you have a problem with the local cats, if your site has been contaminated in the past, or if your soil is little more than rubble. I've finally got soil, but I certainly haven't given up my containers.

Once you've decided you want to grow in containers, where do you start? Treat gardening in containers the same way as any other kind of gardening. It's hard to make a jumble of plastic pots look stylish, but there are all sorts of other things you can use to grow plants in. It's best either to be restrained and minimalist or eccentrically eclectic; you could use just one type of container or go for everything and anything that will house a plant, as long as you have flair and a good eye—no old boots or bathroom basins!

Wine boxes, with their lovely embossed logos, are great for growing salad crops in. The best place to get them is from high-end wine merchants as the better the wine, the better the quality of box. Portuguese port boxes are usually really well-made. It's a good idea to add corner braces to stop the wood from warping and you need to preserve the wood with something like Danish oil to weatherproof it. You also need to drill holes in the base for drainage. You can happily grow radishes, cut-and-come-again lettuces, spring onions, Oriental greens, tomatoes, and herbs in boxes.

Another good source is old drawers. These tend to be made from very good wood with lovely dovetailed joints. Again, you'll need to weatherproof and create drainage holes; you should also line the drawers with plastic because they were never meant to be used outside, and brace the corners. Big drawers around 12 inches deep are the best find as you can grow root crops such as beets, turnips, rutabagas, or an entire salad crop in one box.

### Preparing wooden containers

All wooden containers need preserving. Oil waterproofs the wood while still allowing it to breathe, so if the wood gets wet it can dry out. I use Danish oil, which is a blend of various oils that dry to form a hard



**Left: Salad boxes—**wooden boxes make stylish homes for summer salads. Whether it's an old drawer or a funky wine box, you can grow a summer-long supply of leaves and greens.







surface. You'll need at least three coats and it's not worth cutting corners because the more layers you treat it with, the longer the wood will last. A cheaper option is boiled linseed oil, but this takes over a week to dry properly and can have a sticky finish—I've found that it works well on wine boxes, as this wood is so dry that it just sucks it in, but it's no good on pre-treated wood.

Don't be tempted to varnish your boxes, as this will only provide more work. Varnish creates an impervious layer that physically keeps water out, but if there is any sort of crack then water gets in but can't get out, and the wood rots from the inside.

### Tins, sacks, and bags

Large food tins make great growing containers. Among my favorites are the big square ones containing bulk-cured olives, with lovely designs on the front. You may be able to get hold of them from a specialty grocer that sells olives. Or try asking restaurants for oil tins. You'll have to cut the top off them and inevitably they'll rust, but that can be a good look. Drill holes near the bottom around the sides, rather than through the base, for the best drainage.

Dried baby formula or large coffee tins make good small containers for herbs. Rip off the labels and paint them. Poke holes in the bottoms with a large nail and arrange a whole group along the top of a wall or windowsill. Cracker and cookie tins work well, too. There are some fantastic retro versions out there and all are good for growing shallow-rooting things, such as alpine or succulents.

Potatoes grow so easily in containers that I've almost given up growing them in the ground. I bought five very large pots (the size of garbage cans, another alternative) from a dollar store a couple of years ago

and grow a summer supply with virtually no effort. Spuds will grow equally as well in old compost or mulch bags. These can be disguised with burlap sacks. Some of the nicest are seed potato bags, so ask your garden center if they have any when you buy your potatoes in spring. Another source of sacks is pet stores that may get bulk supplies of peanuts in them.

The very cheapest container is not stylish, but it makes up for this in practicality and price—the plastic bag. You can grow almost anything in a plastic bag, as long as it's not see-through because roots don't like light. One trick is to use compost bags as containers. Buy small to medium multipurpose mix for containers and just open up the top, poke some drainage holes in the bottom, and away you go. You can grow tomatoes, zucchini, potatoes, chard, and peas this way. I've seen vegetables and flowering plants successfully grown in supermarket plastic bags. It may not be attractive, but if you know that you're only renting an apartment for six months or so and don't want the hassle of transporting pots, it's one way to have a garden.

Opposite page:  
Harvesting potatoes.  
Remove plants and tip  
contents out onto a  
large tarp.  
Center: From one  
potato comes many.  
See page 177 for how  
to grow.  
Right: Oil tins are a  
funky alternative to  
plastic pots.





# Potting soil

Containers require good potting soil that holds moisture but drains well, and has a good structure so it doesn't get dense when it's wet.

This is important because containers undergo heavy watering, and air is as important to roots as water. It is perfectly possible to make potting soil or mix from scratch, using loam (sterilized soil), homemade compost, sand, and leaf mold, but if you have a small space it's not that practical as you have to store all the individual ingredients. It's often easier to buy a commercial potting soil or mix.

The thing is that commercial potting soil ingredients vary widely. If the mix does contain soil (loam) it should state that it has been sterilized so that it's free of bacteria and potential disease. Gardeners generally need two kinds of basic potting mixes—one for seeds, cuttings, and seedlings, and one for larger more established plants growing in containers. Seeds don't actually require nutrients at the initial stages of germination, as the seed itself does all the feeding. Mixes suitable for seeds therefore have simple ingredients that will offer an open structure and good drainage such as vermiculite, perlite, sand, or leaf mold. Larger, established plants need a rich diet to get established and keep going. Mixes for containers need

lots of organic matter to keep plants happy. The best sort is bulky stuff like bark or composts.

I don't favor the basic mixtures containing peat moss or peat for two reasons. First, they are known as 'soiless'—they contain no soil, mineral or other organic matter, meaning they deliver few nutrients and you have to fertilize regularly. Second, they are unsustainable. Large scale harvesting of peat and peat moss is neither economically nor environmentally sustainable. Both are truly amazing substrates—inert and porous, creating an ideal stable growing condition, so there is a great deal of reluctance for gardeners to give them up. However, both are part of ancient ecosystems; peat, for instance, takes over 10,000 years to make, and harvesting these materials is destructive to these habitats. Often these materials have been transported for thousands of miles.

There are good alternatives to peat, many of them made from coir (a by-product of the coconut industry) or other compostable wastes, e.g. forest products, composted sawdust, husks, pulps, or worm castings. Coir absorbs water and is free-draining like peat: some say it is too free-draining to use for seeds or seedlings, but it is quick to re-absorb water, so is ideal if you keep a close eye on watering.

I tend to go for potting soil that uses it as part of a mix rather than as the predominant ingredient.

Another good, cheap ingredient is mushroom compost, a by-product of the mushroom growing industry, and is rich in organic matter, creates a good structure and holds onto water.

Read the ingredient list on the packet. A good potting soil will contain a mixture of ingredients including, organic composted materials, something to open up the structure of the soil such as perlite, sand, or vermiculite, and some sort of food. If the mixture ingredient list says it contains slow-release fertilizers, make sure to check if they are organic (usually some sort of seaweed or manure). Slow-release fertilizers usually last for 6 to 8 weeks; after that you have to feed them yourself.

A good organic potting soil will use local by-products such as rice hulls or cotton pulp to add organic matter. You'll find that the mixes may change during the year as companies blend what is readily available.

Most mixes are multipurpose, meaning that you can use them for both seed sowing or container growing—at a stretch. This is a bit of marketing hype. You can use them for everything but they won't always give you plants. As a rule of thumb it is

best to amend multi-purpose mixes. For seedlings, add structure to the mix. I add roughly 50 percent sand/perlite and vermiculite in equal parts. For cuttings, I tend to add around 25-50 percent horticulture crushed gravel, depending on the plant's requirements. I also use special mixes for specific groups of container grown plants.



## *Specific potting soil mixes*

### *Free-draining mix for succulents, Mediterranean plants, and cacti*

2 parts multipurpose potting soil  
1 part finely crushed gravel  
1 part horticultural sand  
1 handful (per pot) of slow-release fertilizer such as bat guano/sea kelp/fish manure

### *General compost mix for vegetables and flowers*

4 parts multipurpose potting soil  
1 part vermiculite  
2 parts composted fine bark  
1 handful (per pot) of slow-release fertilizer such as bat guano/sea kelp/fish manure.

### *Super-light mix for rooftops and balconies*

You need to water plants on roofs and exposed places more frequently. They will be subject to winds, so tend to dry out faster. Any lightweight potting soil mix, by its nature, will dry out fast so containers must be watered often.

2 parts multipurpose potting soil  
1 part vermiculite or perlite (vermiculite holds water better. Perlite is another very porous volcanic product; it can be dusty so watch out if you're asthmatic.)

1 part polystyrene (this has no nutritional value at all, but it's light, adds lots of drainage, and it's free. Polystyrene nuggets are used as packaging.)

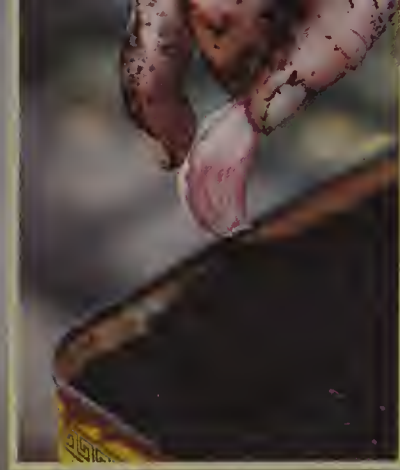
2 parts composted fine bark  
1 handful (per pot) of slow-release fertilizer such as bat guano/sea kelp/fish manure.

**Left: Don't skimp on potting soil for containers. Buy the best quality you can afford as it pays off in the long run.**



Right: Beginners choice. Garlic is easy to grow in a container. Plant individual bulbs in autumn and shoots will appear before Christmas. See page 178 for growing info.

Opposite page: Champagne boxes are ideal for window ledges.



# Container harvests

Plants in containers rely on you for all their needs, so you do need to look after them. You can grow several crops in one pot in swift succession as long as you keep the plants well fed. Every time you start new seedlings, remember to refresh the pot by adding plenty of food in the form of fresh compost. The best stuff is from your compost bin—add a new layer and mix it into the existing material.

In hot weather, you'll need to water vegetables every day. If you can't, then try growing food that you can crop before the hottest weather such as greens, potatoes, and rhubarb, which is quite happy in a large container. Water early in the morning before you go to work as the plant will use this water most effectively. Soak the pots at seven in the morning for best results. Watering in the evening is almost as good.

## Successional growing

By sowing little and often throughout the season you can have a summer-long supply of fast-growing crops, such as radishes, lettuces, and peas. A common mistake is to sow too much at any one time creating a glut. As soon as one sowing has raised its head above ground, it's time to start the next to ensure a harvest over several months.

Admittedly, it's hard to do this when all you have is a few pots, but one successful way is to grow your seedlings in modules. These are seed trays divided into squares big enough to grow one seedling in a plug of soil. You'll have to allow a four- to five-week gap between sowings, rather than the two to three weeks you need when you have plenty of container space. As you harvest, say, one lettuce, you add some more potting soil and plant the next plug in the hole you have made by harvesting. If you can't be bothered or you don't feel you're organized enough to have lots of germinating seed trays and on-going plugs, sow one half of a pot or box, wait a couple of weeks and sow the other half.

## Salad specials

Containers make happy homes for plenty of vegetables (see *The Directory*), but salads are perhaps the most rewarding. They are really simple to grow and, with a little effort, you can keep at least one box growing through a mild winter. If you can stop buying washed bags of salad for even half a year to pick your own fresh stuff, that's a huge achievement.

Lettuce is a dream to sow. Just water the container, scatter the slender seeds across the surface, cover them with just enough potting soil to



hide them, and away they'll grow. There are fantastic varieties of lettuce out there, much more tasty than those you find in the supermarkets. Lettuces fall into two broad categories: heading and loose-leaf types. Once you discover the differences, you'll soon be hunting for that classic blond Batavian 'Pierre Bénite' or that rare Czech heirloom 'Lednický'. Until then, there are plenty of others to keep your tastebuds happy.

Loose-leaf lettuces are the best for small spaces. They can be grown as cut-and-come-again crops (CCA), which is when you simply shear the rows of lettuces at 2–4in. tall, rather than letting them mature. This will give you bowls full of tasty little leaves in around a month from sowing. Three weeks after the first cuts, you'll be able to cut again and, if



it's not baking hot, you can get a third and even a fourth cut. If you have a second box that you have sown two weeks after the first, you'll have a supply for months.

In very hot conditions, lettuce leaves become coarse or the plants bolt (go to seed), so sow from late spring until early summer and again from late summer into autumn. Space the seeds  $\frac{1}{2}$ in. apart in a wide drill—which means an indented line in the soil—leaving about 4in. between rows. If you are sowing in a round pot, liberally scatter a small amount of seeds on the surface. Look for lettuce seed packets labelled 'Cut-and-Come-Again,' 'Leaf bowl,' or 'Salad bowl.'

If you hanker after crisp heads of lettuce sow romaine or butterhead types for late spring and early summer, then later in the year any types except butterhead, which wilt in heat. Heads of lettuce are lovely, but once you've cut the head off, that's it. If you only want enough at any one time for a sandwich, then you can make each head last longer by harvesting just the outside leaves. Heading lettuces need to be thinned to about 6in. apart when the plants are big enough to handle—eat the thinnings—and take about three months to mature into a full grown, crispy head.

Lettuce bolts in hot weather, and what was a short, round plant quickly turns into a towering alien. At the end of the season, I like to let some of my plants go in order to collect seed for next year or just to enjoy the look and add a new dimension to the container garden.

Currently mesclun, also known as saladini or misticanza, are hugely popular. These are salad mixes containing all sorts of seeds, including pak choi, tat soi, mizuna, red kale, mustard, rocket, komatsuna, Chinese leaf, corn salad, and endive. They look great with plenty of reds and vibrant greens in the mixes. Oriental mixes are more spicy than Mediterranean versions. Sow them just like CCA lettuce and you'll be able to harvest

them for many months before they get coarse. In an Oriental mix, the coarse leaves are great for stir-fries. With planning and a crop cover in the form of fleece or bubblewrap, you can sow outdoors as late as October. I like to have both a spicy mesclun and a CCA lettuce wine box planted, sown roughly two weeks apart. That way I alternate between spicy and mild.

Other great container greens include rocket, which pleasingly shoots to maturity quicker than anything; winter purslane or miner's lettuce, which goes right through a mild winter; lamb's lettuce, mibuna and mizuna, red mustard, and endives, which are good to look at and eat.

### Winter harvest

Although most plants stop growing below 40°F, there are plenty that can make it even down to 20°F, so if you're somewhere mild, try keeping some boxes of greens going with a bit of bubblewrap for protection. Where it's too cold, or if space is at a premium, go for windowsill cut-and-come-again seedlings.

You'll need to make roughly three sowings: one at the beginning of September, one in early October, and the last in mid-February. September sowing is suitable for Asian greens (spicy mixes of mizuna, rosette pak choi, mustard greens, and komatsuna are good) and for cold hardy lettuces such as 'Winter Density' and winter purslane. Coriander, celery, red orache, amaranth, and broccoli all make really tasty cut-and-come-again crops.

In October, sow very fast-growing crops such as rocket, cress, and mustards. Then in February, sow lettuce indoors, and outside you can make early sowings of rosette pak choi, rocket, spinach, Russian red kale, broccoli, and winter purslane. This lot will keep you going while you wait for your spring sowings to get going.





Above: In hot conditions, salads often bolt (flower) and go to seed. Don't worry, just harvest the seed for next year. Left and right: Protect late-summer salads through a mild winter with bubblewrap. I've used plumber's piping to make a tent.





# Window boxes

Everyone who lives in town has one—a favorite street where you turn the corner and there it is, an explosion of color on someone's windowsill.

A good window box doesn't just make a house, it can transform an entire street. And the effect of a window box is not only felt outdoors, inside it softens your view and brings nature right to your window. Even on a thirty-story building, butterflies, bees, and birds will happily stop by.

You need a window that can open at the bottom or one that you can easily—and conveniently—reach from outside, such as a fixed basement window, and a windowsill. Even if you have a very deep windowsill, it is vital to fix your window boxes securely; once filled with potting soil and watered, they become incredibly heavy and could be highly dangerous if they were to fall. You can find ready-made window-box fittings in some garden centers and online, or adapt hanging-basket fixings to secure a box. Otherwise, make a simple barrier to go across the front length of the sill.

## Life on the sill

Windowsills can be harsh environments as they get baked by the sun and ravaged by the wind. Perhaps surprisingly, when it rains, windowsills see little of the water. Couple this with the wind, and the fact that window boxes usually provide a rather shallow rooting area, and you'll realize that plants have to survive very dry conditions. Be sure to choose plants that can cope with these conditions, or you'll be constantly battling. If your windowsill is in deep shade, I'm afraid you may be constantly battling anyway as little will do well. Try spring bulbs and ivy; the former make the most of what they can find before disappearing for summer, the latter finds what light it can by climbing toward it.

In the height of summer you will have to water very regularly, even if you are using drought-tolerant plants. You'll also have to feed your box every two weeks with liquid fertilizer to make sure that the potting soil maintains enough energy to give the plants what they need for a good display. You need to treat most window-box plantings as seasonal; take the plants out when they have done their thing and start afresh, bringing in new soil and plants. A tired window box is a very sorry sight. If you have space, perennial plants can be given a home elsewhere after one season. If not, pop them straight into the soil and they will still be useful.







Left: These tobacco plants (*Nicotiana*) were found in a bargain basement corner, and with a little love, they flowered their socks off all summer.

Opposite page, top: You can't beat a classic look such as red geraniums for window boxes.

Opposite page, bottom: Be greeted with winter cheer as you head off to work in the morning.





Left: Nasturtiums have colorful, edible flowers and are a perfect choice for a hot, sunny ledge.

### Brick work

If you only have a very narrow, very baked windowsill and little inclination to water all the time, but you still want to look out on flowers, the lowest maintenance display of all comes from growing shallow-rooting sedums or sempervivums (houseleeks). These are mountainous plants adapted to grow in very shallow, very poor soil, under extreme conditions from searing heat to bitter cold. They're usually to be found in the alpine or groundcover section of a garden center. Sedums, such as *Sedum acre*, *Sedum rupestre*, and *Sedum spathulifolium*, are mat-forming perennials that have adapted to extreme conditions. They form very dense mats of succulent leaves and then flower their socks off in late summer and early autumn.

An easy way to grow them is in engineering bricks—the kind with holes in them. Gather together enough bricks to fill your sill and pack half of each hole with a mix of 2 parts good multipurpose potting soil with 1 part grit or vermiculite. This is a bit messy as the soil will want to fall out, so pack it in as tight as you can. Break a rooted rosette large enough to fill the rest of each hole from each plant, and gently push each one into the soil. Sit each brick in a tray of water until the soil is fully saturated, then put them on your windowsill. If there is any danger of them tumbling off, you should secure wire through the holes before you start and use this to tie the bricks on to a hook attached to the side of the window frame. Eventually the rosettes will smother the bricks and the plants will thrive in this inhospitable environment because the bricks are porous and will absorb and release just the right amount of water. In the hottest weather you can slosh some water over them to help out. You'll have to do a little maintenance every now and then; pick off some dead rosettes and flower stalks, maybe fertilize them once in a while but that's it, and I bet the bees will visit your window sill.





This page: *Sempervivums* growing in a brick. Carefully tease individual rosettes apart and squeeze into the holes in the brick. Water well and they'll soon anchor themselves in.



# Making a window box



Wine boxes, wooden CD racks, and scrap wood can all be used to knock together a simple window box. If you use wood to make your own, or are lucky enough to find an old box, you'll need to line the box with something waterproof to conserve water so that plants can make the most of it. I use old mulch or compost bags.

As when you're making any kind of container, if you use recycled wooden boxes you need to brace the corners so that the wood won't warp or split. Also drill holes in the bottom for drainage. Cheap plastic window boxes never have drainage holes, so if you use these be sure to poke some in before you start planting. A knife or large nail heated over a gas flame works best to puncture plastic.

## Window-box winners

**Plant these on their own or mix them up.**

### **Edible**

#### *Sunny sill*

Chives, basil (Greek or bush basil work best), parsley, coriander.

#### *Drought-tolerant plants*

Thyme, pot marjoram (oregano), sage.

#### *Partly shady sill* (north facing for instance)

Parsley, chives (will take some shade), mint (thrives in shady conditions as long as it is well watered, so make sure

your potting mix has some bulky organic matter, such as homemade compost or composted bark, mixed in).

### **Floral**

#### *Sunny sill*

Nasturtiums, petunias, geraniums, sedums.

*Nicotiana* 'Lime Green', French marigolds (*Tagetes patula*), dwarf pinks (*Dianthus chinensis*).

#### *Partly shady sill*

Coral bells (*Heuchera sanguinea*) and cultivars, *Primula auricula* (flowers from

March to May), winter-flowering heather (*Calluna vulgaris*).

#### *Winter- and early spring-flowering plants*

Heather (*Calluna vulgaris*), compact hebes, e.g. 'Youngii', ivy (*Hedera*), violas—underplant with dwarf daffodils (*Narsissus*), crocus or grape hyacinth (*Muscari armeniacum*).

#### *Drought-tolerant plants*

Lace aloe (*Aloe aristata*), houseleeks (*Sempervivum*), sedums, crassulas.



Left and  
opposite page:  
These lace aloes  
(*Aloe aristata*) are  
growing in an old  
wooden CD rack.  
These make perfect  
window boxes for  
drought-tolerant  
plants that love free-  
draining conditions.





## Indoor gardening

For a long time the only garden I had was an indoor garden, and I can tell you that indoor gardening's really where it's at. It's always seen as the poor relative of "real" gardening outside, but that's simply not true! It's high time for it to come out and shine.

### Planting a healthy home

As you battle your way home through taxis, buses, and cars, you may think that all the bad air is outside, but the sad truth is that things aren't that rosy indoors either. Some research suggests that our indoor

environment can actually be up to ten times more polluted than outdoors. A hundred years ago, our homes were full of natural materials, lots of wood: wool and cotton textiles, and a few bits of metal. Nowadays, we've surrounded ourselves with a crazy load of chemicals.

You'll have guessed where I'm heading. Don't spend hundreds on air purifiers and extractors, but get some houseplants. It sounds ludicrously simple, but plants are the best air conditioners out there. The most effective air-purifying plants come from the tropics.



Left: My avocado and snake plant (*Sansevieria trifasciata*) keeping each other happy. No one can kill a snake plant, so every house should have one. Opposite page: How I love this Golden Pothos plant (*Epipremnum aureum*), which has made its way across my friend Silvia's office.





## Indoor pollutant busters

Areca palm *Chrysalidocarpus lutescens*

Lady palm *Rhapis excelsa*

Rubber plant *Ficus elastica* 'Robusta'

Dragon plant *Dracaena* spp.

English ivy *Hedera helix*

Peace lily *Spathiphyllum* spp.

Gerbera daisy *Gerbera jamesonii*

Spider plant *Chlorophytum comosum*

These plants have evolved to have unusually high transpiration rates (transpiration is the evaporation of water from plants and how plants move water through their system). This allows them to survive under the dimly lit canopy of the forest—an environment that in lots of ways resembles our homes and offices, with fairly low light and warm temperatures.

### The needs of your indoor plants

All plants, whatever their function in your home, need three things to be happy, just like plants outside—light, water, and food. Light indoors can be tricky as you can never fully replicate the light that is found in the plants' natural habitat, But it's perfectly possible to work with your available light to please your plants.

We tend to think about rooms as being either light or dark, but this is oversimplistic. Even in a light room, there will be a limited source of direct light, perhaps 4 to 6 feet from the window. The rest of the room will be in shade, but if there are pale walls light will be reflected around the room.

Plants grown in too little light become leggy and, if they are really deprived of light, they die. A leggy plant develops a long stem and small leaves. It will also bend to grow in the direction of the light source—this is called phototropism. Ideally plants want light to come from all directions, including directly from above, but as this is rarely possible indoors a plant reacts by

turning toward the light. To counteract this, you have to turn the pot regularly so that the plant gets a fairly even amount of light on all sides. Then it should grow directly upright.

Although we notice the difference in the amount of light from summer to winter, our eyes are not subtle enough to estimate the scale of the difference. As days get longer (from early spring onward), don't close your curtains at night—those few extra minutes each morning make a huge difference to your houseplants. Ideally, plants should be kept in front of curtains; it can get a bit cold behind.

At the other extreme, a south-facing window can be bathed in very intense light in summer. Only cacti can really stand such conditions; other houseplants should be moved about 3 feet from the window so that they don't scorch.

Your houseplants will love you dearly if you can give them a summer residence outside. If the summer temperatures are above 60°F, then houseplants can go out. If you have a balcony or patio, move them out but acclimatize them gently to the bright outside light by starting them in the shade until their tender indoor leaves have gotten used to the outside world. A spell outdoors gives them a chance to catch real rays, and to get battered a little by wind and rain. They will respond by growing a bit tougher, making them all the stronger for winter.

Opposite page, left to right, top to bottom: Easy house plants. Jade plant (*Crassula ovata*), peace lily (*Spathiphyllum* spp.), bromeliad, chain of hearts (*Ceropegia woodii*), bromeliad, *Brighamia insignis*. Left: Toxin-beating spider plant *Chlorophytum comosum*.



# Grocery-store gardening

The range of houseplants from garden centers or DIY stores can be a little boring, emphasizing on palms, cacti, and ferns. Although I've a soft spot for many of these, I got to a point where I hankered for something different. Another problem is that decent-sized houseplants are often expensive, while cheap ones tend to give up the ghost soon after you walk them through your front door. I wanted something cheap and something that I could get in whichever city I was living in. Like elsewhere in my life, the inspiration I needed was in the stuff that usually gets thrown out—plants I wanted were in my kitchen and compost bin.

I started with the obvious—the avocado. I love its kitsch '70s' appeal; think of Mary Ann Singleton in *Tales of the City* sprouting her lunchtime avocado at her office desk. It's a great houseplant as it doesn't mind a fair amount of neglect and rewards any love with a full flush of growth. From there I used my cupboards and fruit bowl as inspiration.

There are a few considerations to grocery-store gardening. Many modern fruit and vegetables have inhibitors to stop them germinating in storage—this is particularly true of potatoes—and it's best to go for organic produce where possible. Some stuff just doesn't

have any seed to germinate, clearly you'll never get a banana seed. And some produce will be hybrid varieties so you might not get what you expect.

A general rule for germinating from fruit is the riper the better—even rotten—as these seeds have had time to mature. If your mango or avocado was hard, the seed probably won't be ready. If you work with the seasons, you always get better results, so start sprouting seeds in late spring and early summer and you'll have enough light to get things going.

Another rule is always to use good-quality, multi-purpose potting soil. If you want to be fancy, you can use stuff specially formulated for houseplants. Generally houseplants need to be kept moist, but not sodden. The rule is to water gently until it rises to the rim of the pot, not until it's sloshing all over the surface. Once the water has run all the way through the pot and collected on the saucer or plate, leave it for fifteen minutes or so. If that excess water hasn't been re-absorbed, pour it away. With heavy pots, I remove the excess water with a turkey baster.

Much grocery-store fare comes from tender plants from tropical climates, but by growing them indoors you can maintain the 70-85°F that many of these plants need. Grocery-store gardening is not about trying to crop fruit because much of what you grow won't fruit till they are fully mature trees. It's about softening your environment with something green and alive.

## Fruit

Papaya is easy to germinate and plants grow fast. Clean the seeds and germinate them in potting soil mixed with a third perlite or vermiculite, sowing about ½in. deep. Water the soil liberally but don't completely saturate it, cover the pot with a plastic bag and leave it on a sunny windowsill. In warm bright conditions,

Below, left to right: Grocery gardening. Pomegranate, chickpea, chile plant, goji berry, and ginger, all from the kitchen.







Left: My beautiful avocado after several years. Below: To grow your own, sprout the avocado pip in water in a warm, dark place. Once they've got several leaves, it's time to move them into potting soil.







**Above left: Chile plant grown from seed. Most chiles are annuals and will only last a season or two. Above right: Sweet potatoes like lots of light and plenty of water.**

seedlings are quick to sprout. Remove the bag once seedlings have popped up and water frequently without drowning them. Repot into individual pots as soon as they are large enough to handle. Mature plants need a bright location and regular watering. If they don't get enough water, they'll drop their leaves all at once, shortly afterward they'll droop and die. Papayas are not for the neglectful gardener, but if you love them, they'll grow as big as you let them.

Mango seed is best harvested from almost rotting fruit. Clean all the stringy bits and pulp from the seed and leave it overnight to dry. With a sharp knife, cut carefully down one side of the seed and take out the bean. Sow it flat, 1in. deep, and cover the pot with a plastic bag. Remove the plastic bag only when the seedling is up and standing strong, about 2in. tall. Mangoes like moist, fertile soil and sunny conditions. A regular liquid feed does them good.

Limes, lemons, oranges, and grapefruit can all be grown from seed and make lovely houseplants, though they will rarely fruit indoors. Choose ripe or even slightly overripe fruit

and sow fresh seed in the summer in pots filled with two-thirds multi-purpose potting soil and one-third finely crushed gravel. Make sure there is a good layer of pot shards at the bottom for extra drainage and cover the pot with another 2in. layer of grit. Don't allow your seedlings to dry out and weed out any puny ones. Once a few are well-established, you can knock them out of the pot, carefully transplanting each one into a 3in. pot to start with. Always hold seedlings by the leaves, never handle their stems or roots. I'm afraid your plants won't flower until they are at least seven years old, but the glossy leaves smell lovely and they are

handsome plants. Lemons tend to be the easiest in containers. All citrus plants need regular feeding every two weeks during summer, preferably with a balanced fertilizer.

Most people know the avocado pip, toothpicks, and jar of water trick from childhood. It's a bit hit-and-miss, but with patience most do sprout. There are other ways. I found in a very neglectful moment that if you just leave the whole pip covered in water in a bowl it will sprout. Once it has sprouted, you can convert to the toothpick and jar method. You can get avocados to sprout super-quickly in a worm bin, and fairly quickly in a compost bin, but it's a bit hard to find them once you've put them in! As soon as the pip has sprouted roots and a shoot, transplant into an 8in. pot. When the plant reaches 12in. tall, prune back the top third to a bud. Pomegranates can be successfully sown provided that you let the seed dry out for a few days first by spreading it on a kitchen towel. Then clean off any residue carefully and sow the seed ½in. deep in good, moist potting soil and cover the pot with a plastic bag. Keep it on a sunny windowsill and be patient; the seed takes up to two months to germinate before you can de-bag the pot. Don't let the soil dry out and, when seedlings appear, keep them



Above left: Sow chickpeas from your store cupboard (mine were four years out of date) in good potting soil. Below left: A young plant. Above: Mature plant in fruit. Sow in spring; chickpeas will have set fruit and died by autumn.

moist. The best time to germinate seed is late spring and early summer so pomegranates can benefit from time outside in hot summers.

Goji berries bought dried from health food stores germinate very, very quickly. It's a bit laborious cleaning the seeds from the fruit, but you do get to eat the fruit as you go. Sow them onto the surface of your potting soil and cover with a layer of sifted compost, finely crushed gravel,

and water. They'll take two or three weeks to germinate; if you wait longer than four weeks they're not coming. These are tough plants—even though they're some kind of new superfood they were much loved by the Victorians and will happily grow in pots. Water them well and don't let them get too hot—a covered porch is ideal. If you can keep them somewhere bright and give them summers outside they should even fruit after three or four years.



# How to rescue neglected houseplants

Problems that aren't the fault of little critters tend to come down to three things—water, light, and food. You can break down people who love houseplants into over-indulgers and under-indulgers. The trick with houseplants is to be consistent. They want consistent temperature, consistent light, and regular watering. Over the seasons the conditions in your home tend to vary, so move your plants around to get the best light and the warmest conditions.

## The under-indulgers

Water is a prime need. The most obvious sign of a thirsty plant is when its leaves and stem start to wilt, looking soft and droopy rather than strong and healthy. This happens when the plant cells lose water and thus their turgidity (firmness). Basically the cell begins to collapse in on itself as the cell wall starts to pull away from the membrane and the plant droops. This is called “the point of elasticity,” and past that point the plant doesn't just wilt, it also starts dropping its leaves. When the membrane has literally pulled away from the cell wall through lack of water, it is no longer elastic and the leaf falls off because the cells are dead.

Other indications of a thirsty plant are if new leaves are smaller than normal and much darker colored than others, which shows that they're in danger of dropping. Actually, plants shed older leaves first in order to save younger ones, and stunted growth often indicates underwatering and underfeeding.

Extreme dryness needs to be dealt with swiftly. Water the soil thoroughly, then soak the pot in a bowl of water for 15 minutes or until the mix is saturated. Also spray the leaves to slow down the rate of transpiration. It's hard to tell at a glance that some plants are suffering; stiff-textured leaves such as cacti or aloes can dry out with no more than a few wrinkles.

This is deceptive because they may look alive, but are mummified and actually dead. You will learn to recognize this as the leaves remain a dull green color.

Most houseplants arrive potted in soilless potting mix. This is because it's cheap and lightweight, easy to transport. Once this mix has really dried out, it's difficult to re-wet. The ideal solution is to repot all your plants into something organic, but life's a little too short to always go down that route. So if you forget to water and find a gasping houseplant, soak the whole pot in a sinkful of water and add a touch of biodegradable dishwashing liquid. This breaks the surface tension of the water and, after about ten minutes, the mix should have re-absorbed enough water.

## The over-indulgers

If houseplants got obituaries you'd find the majority of them drowned. All plants take up water through very fine roots called root hairs. Clearly these like water, but they also need oxygen. If all the spaces between the particles of potting mix are filled up with water, there's no room for the oxygen and the plant gasps its last.

You get plenty of warnings that this is happening, but unfortunately they can also seem to point to other maladies. If the leaves wilt but the soil is wet, you're almost certainly overwatering. If they rot, or turn yellow, and flower buds fall off, too much water is the likely cause. Green slime on top of the soil is another bad sign.

It's too late to salvage a plant if the stem and lower leaves start to rot. This is a sure sign that the roots are rotten too. But it's always worth a last life-saving attempt before ditching it. First put the plant into a warm room and do not water it. Let the soil dry out and restrain yourself from watering it for at least another week to ten days. Then, and only then, you

should turn the plant out of the pot and see if you can find any white, firm, and healthy looking new roots. If so, well done, you've brought it back from the brink. Now you can start to water sparingly.

## Light

After water comes light in the houseplant wish list. If your plants are getting too much, you may see browning at the edge of the leaves as scorching often manifests itself as brown, dead patches on leaves. Wilting, the most common indicator of an unhappy indoor plant, can be a sign that the roots are burning to death because a pot is standing in baking sun. Feel the pot: if it's hot, so are the roots. As long as you keep giving a plant the right level of water it's hard to kill it from too much light, but it may start to look ugly. When you prune off scorched brown leaves remember that the new shoots that follow are very sensitive, so don't let them get scorched or you'll really be testing the poor plant.

Too little light can be just as bad, leading to spindly, unhappy plants. Green leaves may lose their color and bleach to yellow, and variegated leaves may lose their variegation and turn green. Or a plant may develop contorted leaves that twist to strain toward the light. If a plant becomes truly contorted, prune it back to less twisted stems. Slowly adjust deprived plants to lighter conditions. Usually a summer outside rectifies a lot.

## Food

It's probably safe to say that if you don't water enough your plants will be underfed. An underfed plant tends to look a little yellow because it is lacking essential nitrogen, the most important nutrient for a plant and essential for growth. Lack of nitrogen seriously inhibits a plant. It will grow slowly with only small, poorly colored leaves and flowers.

During spring and summer, plants in pots need to be regularly fed. Many companies offer slow-release fertilizers that will last a season. It's a good, lazy approach, but suitable organic products are few and far between. It's best to feed your plants every two weeks with a weak liquid food such as seaweed solution. A houseplant that hasn't had its potting soil changed in years is at a severe disadvantage. Feeding every two weeks is kindness; changing the potting soil is love.


An overfed plant looks just as unhealthy, with lanky, weak growth. If your plant is in a clay pot, you may see a white, salty-looking deposit on the outside. This usually indicates mineral build-up from overfeeding. The solution is to feed sparingly, never more than every two weeks in the growing season.

## Going away for the weekend?




If you're just going away for two or three days, your plants will be fine; just make sure they're watered. If you'll be away longer, you can seal your plants in clear plastic bags—either the whole plant or just the pot for larger plants, tying the bag securely around the stem. A bag around the plant acts like a mini greenhouse: keeping the environment moist. A bag around the pot keeps the soil from drying out. Keep the plant out of direct light, but not in a dark room. I move everything to my bathroom, that way I don't have to think about whether to keep the curtains open or closed.

If it's not practical to move your plants, use an old plastic bottle as drip irrigation. Take a bottle with a traditional screw cap and make five or so holes in it. Cut off the bottom of the bottle, turn it upside down and insert the neck end into the soil, taking care not to damage the plant's roots. Fill with water and gravity will slowly pull the water down. This method is also great for large pots and balcony planters.





How  
does  
your  
garden  
grow?







The secret to any lush, bountiful garden is good soil. Before you start gardening outside, you have to find out what type of soil you're working with, and what you're aiming for. Understanding what sort of soil you've got is akin to knowing whether your car runs on diesel or gasoline. It's easy to know what you're giving your plants in a container, but there are all sorts of variations in garden soil.

Soil is your plants' source of nutrients, water, and air, and it provides support and protection for their roots. Although plants make their food from the sun, water, and air, they need nutrients to carry out certain functions, in just the same way that we need vitamins. Nutrients prevent stunted, slow growth and yellow, fading or unhealthy leaf color. Plants obviously need water to stop their leaves and stems from drying out, and water carries nutrients and sugars around the plant in the form of sap.

Air is as vital in the soil as it is above ground. Roots need air to breathe and they get this from tiny air pockets in the soil. Saturated or flooded soil kills plants partly because the roots are prevented from getting any air, whereas a healthy soil has space between its particles to trap air. This is one of the many reasons why organic matter is so important in soil. Where there's organic matter, there are worms and other soil organisms that live off it, and as they burrow and move around to feed, they create drainage channels, bringing much-needed air into the soil.



# What is your soil type?

Soil is ancient, it was made millions upon millions of years ago, which is why it is such a precious resource. What kind of soil you have depends on the parent rock where you live. For instance you may be on chalk, which is made of trillion-year-old seashells, or on sandstone. Parent rock also determines the chemical elements found in soil and therefore how fertile it is. But soil is made up not just of ground rocks, but also organic matter. This is material made from decaying matter—animal bodies, twigs, leaves, dead plants, and anything else that has fallen to the ground at some stage and decomposed.

There are three basic types of soil—clay, loam, and sand. Loam is the most desirable as it's a balanced mix of the three. Clay and sand are less ideal, but you can gradually work them to make them more like loam. In many urban areas you find soil that behaves a bit like sand, but is actually more rubble than anything else.

*Clay soil* is made up of very fine particles that bind tightly together. This is why it turns sticky after the rain. Once it dries, it sets like concrete and cracks. Clay soils tend to have an orange tinge.

*Sandy soil* is made up of fine particles of sand and grit, which makes it very free draining. Sandy soils tend to be pale, sometimes with a pinkish tinge. They are often lacking organic matter.

*Loam soils* are made up of equal parts of sand, clay and in-between size particles called silt. They are typically dark brown because they contain plenty of organic matter.

Some experts recommend doing a soil analysis test to tell you what type of soil you're working with, including its pH and mineral content. This is done either by buying a soil-testing kit from the garden center, or sending it off to a soil-testing laboratory. A lab report can be very useful, but it has to be thorough

to be worthwhile and it's not cheap. I admit that I don't bother as you can tell an awful lot by digging up some soil and rolling it around in your hands.

You can also tell a lot about your own soil by looking in your neighbors' gardens. If you spot lots of drought-loving plants, you probably have thin, well-drained soil. If there are lots of moisture-loving plants such as hostas and astilbes, your soil is probably fairly dense and boggy. Or you could just ask your neighbors; they may be the sort who sent their soil off to a lab. Your local garden center is sure to know the general local conditions, although they might try and sell you a kit to see for yourself.



## The hand test

Take a small handful of wet soil and roll it between your palms. If it makes a snake that can be bent into a circle without breaking, it's clay. If it makes a snake, but crumbles when you bend it, you have loam. If it's too crumbly to roll into a snake, it's either sand, which is usually pale brown, or made up of rubble, brick dust, and all the other stuff buried in urban back gardens.



# Soil structure

A good soil structure contains particles of various sizes with different-sized gaps and spaces between them that hold their shape under slight pressure. Different types of soil have different structures: the best are full of organic matter and the poorest can be improved by regularly adding organic matter in the form of composts and manures.

The way to tell what you're working with is simple. Take a small handful of soil and rub it between your thumb and forefinger. If it feels gritty it contains a lot of sand, if it feels smooth it contains a good proportion of silt (an important component of loam soils), and if it feels sticky and has a sheen, it's clay.

## Clay soils

Heavy clay tends to become compacted and airless and is very low in organic matter. Clay drains badly; in summer it can dry out to become as hard as concrete, in winter it often becomes waterlogged. This means that through the winter, plant roots too often drown as they are starved of oxygen. On really heavy clay, plants can only grow roots in a very shallow surface area. This means that come summer, when the surface of clay bakes dry, plants don't have enough root depth to extract water from lower down. On exposed sites, plants dry out particularly fast in summer months.

Clay is sticky and compacts very easily, especially where there is a lot of foot traffic. For this reason, it's best to try to keep off beds in wet weather, and it's never a good plan to try and cultivate a clay soil when it's soggy. Clay is also slow to warm up in spring, but you can help it along for spring sowing by covering beds with carpet, fleece, or clear plastic.

But clay soils hold nutrients well because they don't drain away, so you won't have to feed your plants as often as you would in other soils.

**Management** On heavy clay, you will have to add a bucketful of grit per square yard to open up the soil. Horticultural grit is very expensive as it has been washed and graded; sharp sand is cheaper and can be mixed in equal parts with grit to make your money go further. Don't use builder's sand as it's full of lime, and don't use sea gravel as it's too salty. Every year, you should also try to add at least a bucketful of home-made or purchased compost per square yard—organic, peat-free soil improver or multipurpose compost is best. By digging this in, you improve the structure to make it looser and less liable to compact.

If your soil is really heavy and your time limited, it may be a better plan to create raised beds on top of the soil and fill them with compost mixed with good topsoil—again use a mix of multipurpose compost and peat-free soil improver, ideally with some home-made compost mixed in. If available, you could also combine a bit of farmyard manure.

Choose plants for clay carefully. Most herbaceous perennials will have no problem once they're established but some plants, including penstemons, lavenders, and rosemary, don't like sitting with wet feet.

## Sandy soils

Sandy or gravelly soils are thin and rapidly dry out in both summer and winter because drainage can be almost too good. They don't hold nutrients well as they drain away swiftly, so plants on sandy soils will need feeding regularly. If sandy soil is left bare for any length of time, it is quick to erode.

**Management** If you want to grow vegetables in sandy soil (apart from carrots that prefer it), the only real solution is to add bucketloads of compost to bulk out the organic matter and thus improve the water-holding



Above: Mediterranean plants such as thyme (here with a chive in flower) thrive in free-draining conditions such as sandy or urban soils.

capacity. If you can't dig, then mulch heavily (covering the soil with a thick layer of organic matter, such as manure or compost). Whether you dig or mulch, do it regularly in both spring and autumn. These are hungry, fast-draining soils that will literally eat up organic matter.

Stick to a base of Mediterranean and drought-loving plants such as rock roses (*Cistus*), thyme (*Lavatera*), yarrows (*Achillea*), and lavenders (*Lavendula*). This will cut down your labor because these plants are perfectly suited to dry, hot, free-draining conditions. Many poor urban soils behave like sandy soil.

### Loam

Loam, lovely loam is naturally full of organic matter and therefore worms, soil organisms, and life. Full of

nutrients, it is moist but free-draining, the perfect garden soil. Whereas clay will be covered in puddles for ages after heavy rain, puddles on loam soils won't last more than an hour or two, yet in summer whatever moisture is available will be held and well distributed in a loam soil.

**Management** Loam starts life with a fair amount of organic matter, but don't abuse its good nature. If you grow lots of vegetation, you should keep adding more compost annually and give it a thorough feeding every two or three years with a balanced fertilizer.



# Soil health checks



Above: Good soil is teeming with life. Look for worms, beetles, and mites as a sign of healthy soil fauna.

Once you've assessed your soil type and structure, check a few more things to see just how healthy your soil is. The first is organic matter. You'll get a rough idea of how much you've got in your soil by digging up a spadeful and counting the worms. Conventional wisdom says dig a spit—a spade's blade depth—deep. Three worms are good, five worms are excellent, no worms are bad. Dig in several places and if you can't find worms your soil is very low in organic matter.

You can also count other soil dwellers in your spadeful of soil. You might have to wait a little while to see anything, as tiny soil creatures can be hard to spot, but good soil will be alive with activity. As well as earthworms, you may see little things hopping and jumping, various beetles and fine white threads of fungi. Soil organisms are the source of life in your

garden: they break down decaying matter, make nutrients available to plants and create channels for water to move through. If you can count more than ten living things in your soil you've got a really good starting point.

Don't worry if you've scored poorly; many of us are working with problematic soils. Most urban dwellers cope with clay or thin or gritty soil so low in organic matter it's a surprise even the weeds grow. All soil can be transformed into a healthy growing medium, and it does not have to be done all at once.

It's also helpful to assess how compacted your soil is. Get a long piece of thin, straight wire and stick it into the ground. At the point where the wire bends you've hit compaction, so if it bends near the surface you have very compacted soil. The wire could be hitting a stone, so try a few times in different spots. If you hit a line of solid spots, you've got what's known as a 'hardpan'—a layer of compacted soil that limits root growth. You get a hardpan if heavy machinery has been working over your soil—most often on new building developments. A hardpan can be rock hard, so it must be broken up before you start planting.

## Soil pH

How acidic or alkaline your soil is is determined by its pH; pH is measured on a scale of 1 (very acidic) to 14 (very alkaline). Most soils fall between 6 and 8, either slightly acidic or alkaline, and for most plants that's just fine. The problem

is with the extremes. Very acidic or very alkaline soils create problems with certain nutrients, which become chemically locked up in the soil and thus unavailable to the plants. When this happens, you see deficiencies. On alkaline soil, you tend to get iron and some trace elements locked up. This is why, if you grow acid lovers such as rhododendrons on alkaline soil, their leaves turn yellow—a sure sign of iron deficiency.

Many plants, especially vegetables such as the cabbage family (*Brassica*), like slightly alkaline conditions where nutrients are readily available to them. Acidic soils tend to lock up phosphates: if your plants have stunted growth and purple-tinged leaves they're missing phosphates. Acid-loving plants have overcome these problems, but can be unwilling to grow in anything other than acidic soils for this reason.

### Altering the pH

Most soils sit somewhere near the neutral pH line, which is where most plants want to be. If yours is very acidic or alkaline, this does determine your choices but on the whole I tend not to modify neutral soil for acid or alkaline lovers as long as their other needs are met. If they're kept moist in summer and well drained in winter, most will survive, even if the pH is not perfect.

It is possible to alter the pH, but it tends to be only a temporary solution—you couldn't change the pH in a whole garden, it would just be too difficult. You can however raise the pH of an acid soil by adding lime. Lime supplies calcium to the soil. Earthworms, soil organisms, and nitrogen-fixing bacteria all increase their activity in alkaline soils for this reason. Lime doesn't last in the soil that long, so you will have to regularly test your soil, year after year. It is important not to put lime and organic matter on your soil at the same time as they will react together and cancel the effect.

You'll get a big hint if your garden is acidic or alkaline if it's full of certain plants, or if they are flourishing next door. Thriving rhododendrons, azaleas, heathers, and conifers suggest an acidic soil. Pinks and carnations, lilacs, scabious, and baby's breath (*Gypsophila*) prefer an alkaline environment as they are chalk-soil natives.

If you want to grow acid-loving plants and you have very alkaline soil, grow the plants in pots. Feed regularly with fertilizer recommended for acid-loving plants.

### Make your own pH test

To check your soil pH, you can buy a kit from the garden center, but the easiest way is to make one yourself, using red cabbage. This contains a water-soluble pigment, called a flavin, that turns red in acidic conditions, has a purplish tinge in neutral conditions, and shows bluish green to greenish yellow in alkaline conditions.

Bring two cups of chopped red cabbage to a boil and let them cool. Drain off most of the water—and eat the cabbage! Put about a tablespoon of soil in a cup and half-fill this with water. Stir the soil around so that it's suspended in the water. Now add about 3mm of cabbage water.

The liquid will turn a purplish red with a slight tinge of blue for a neutral soil. Greenish yellow is very alkaline and very red is acidic. You should check soil at various locations around your garden. Be aware that builder's rubble contains a lot of lime, which will give alkaline results, so make sure you take a few different readings.



# Compost: feeding your soil for free

Most gardens do not start life with good soil. It is something that is worked at, maintained, and loved. Luckily the way to a successful romance is simple, all that good soil needs is good compost.

*Compost* is a confusing term as it is used both for manufactured and homemade stuff and they are very different things. Store-bought stuff is usually a blend of biodegradable material, everything from peat or shredded bark to farmyard manure. Homemade compost is very different because you make it yourself. It is very variable, depending on what you've added to your compost heap and the composting conditions. It is very nutritious for plants and, best of all, it's free.

Your own compost is truly the best thing for your garden. It's made from things you would otherwise either throw away or let someone else deal with—food scraps, grass clippings, garden clippings, weeds, even old woollen and cotton clothes and cardboard. This waste is the source of your rich garden.

## **Making compost**

The simplest way to make compost is to copy the forest floor. The waste that accumulates there is a mixture of animal and vegetable matter—leaves, twigs, branches, fruit, seeds, conifer needles, insect and mammal poop and eventually their bodies. All this is washed and sieved by rain, sifted through by yet more insects and bacteria and, with time, nature turns it all into the finest-quality soil. So if you were to gather all your leaves, clippings, weeds, and food scraps into a heap and leave it for a year or so you too would have some fine soil. But a year is a long time to wait and not many people are too keen on having a scrappy pile in their garden, so most of us choose to use a compost bin. There's sure to be one to meet your particular space and style needs.

There are two myths about compost that seem to stop people from becoming master composters. Myth number one is that compost smells bad. Emphatically not true. Good compost smells rich and healthy. Myth number two is that good compost takes years to make. Rubbish. Good compost can be made in around four months in the summer; over the winter it will take up to twice that long.

Making compost is just like baking a cake or making bread. You have to put in the right ingredients and mix them together in vaguely the right amounts. If you put only grass clippings in your pile, it won't rot down for a very long time but will just turn into a slimy green mess. If all you try to compost are great chunks of branches or roots, these will take years to rot down. The key is to create a balance between the brown stuff you put on, and the green stuff—otherwise known as the carbon/nitrogen ratio. You should have about two-thirds brown stuff (carbon source) to one-third green (nitrogen). Brown broadly represents carbon found in fibrous material such as twigs and stems, straw, cardboard, and roots. Green refers to nitrogen found in plant leaves, stems, grass, flowers, and weeds.

Chop up your branches, throw on all your vegetable scraps and annual weeds, add a few thin layers of grass clippings (never more than 6in. deep). Hurl on a pizza box, rip up your old cotton jeans, add some plant prunings, and mix. That's all there is to it. You'll end up with a delicious rich dark crumbly cake. All you have to do is spread this across the top of your garden and the worms will dig it in for you. The sum total of your expenditure will have been to walk to your compost bin a few times a week with vegetable scraps, to turn your compost once or twice, and then to spread it.

I like to collect my vegetable scraps in the kitchen so I don't have to be constantly walking back and



forth to the compost pile. You can buy specially designed compost caddies with filters to stop them smelling. I had one for a while, but I tended to become very lazy and as it didn't smell I let it sit, cramming more and more waste in, until it became an exploding mass of fruit flies. Now I use a lovely white ceramic chicken that I found in a dumpster. The lid keeps the flies out and it holds just enough for a week's worth of peelings.

Compost ingredients are chiefly broken down by aerobic bacteria. In order to do this fast and efficiently they need plenty of air and moisture. The faster the bacteria work, the hotter the conditions get. Cooking the compost is fairly essential as it kills off weed seeds,

**Above left: Compost crocks—I found this chicken in a dumpster. She conveniently holds a week's worth of peeling. Above right: Turning your compost regularly speeds up decomposition.**

pathogens, and plant diseases. A large compost heap, anything a yard wide or more, will easily reach 140–160°F in a matter of hours. A small pile will bake much more gently and perhaps never reach quite the same temperature, which is one of its limitations.

However, you can help the bacteria by having some sort of bin for your compost, to insulate the pile and provide the right conditions for the 'bacterial bonfire.' Think of building your compost a little like a bonfire.



## Compost tips

Start your compost from someone else's. Get a friend with good compost to give you a bagful as a starter. It will contain all sorts of bacteria, insects, worms, and good composting things.

Never try to make compost from one ingredient.

Make your compost in layers, 6–12in. deep.

Mix your compost at least once every six weeks.

Branches or roots take a long time to decompose; chop them into roughly 6in.-long pieces.

Thin cardboard, shredded paper, and scrunched-up newspaper are excellent sources of carbon. Highly colored, glossy paper contains too many chemicals and will upset the worms. Remember this mantra 'Vogue bad, Daily News good.'

Dog and cat poop are bad-news and must never be put in the compost.

Pigeon poop is great and speeds things up.

Never put meat, fish, or dairy in compost.

Tea bags, coffee grounds, and vacuum-cleaner waste can all go in.

Wood or bonfire ash is good, coal ash is bad.

Don't put perennial weeds straight onto the compost. Put these into a bucket of water and cover for around three weeks. This allows them to rot. Then pour this liquid mix onto the compost. This way you get all the nutrients without the risk of infestation.

Don't put diseased plants into your compost. Your compost isn't sterile and you'll re-introduce the disease back into your garden.

Go easy on the lemon peel. Too much citrus can rock the balance and upset the worms.

**Right: Brown stuff. Chop up large roots or branches, otherwise they'll take forever to break down. Branches are high in carbon, so if you add a lot you'll need a source of nitrogen, such as weeds.**



Air needs to be drawn from the bottom up through the center of the heap to get the bonfire going. One way to do this, particularly if your bin is plastic, is to lay several bricks on their edges at the bottom of the bin. This creates a layer on which the compost will sit, drawing air from below. It's always a good idea to have a lid for your bin to keep the rain out and the heat in, but make sure that it lets air through. If it's a plastic lid, I'd make some small holes in it to draw air out.

Compost also needs moisture. If it's too dry, the compost will virtually stand still, but if it's too wet, especially if this is coupled with too little air, you'll get anaerobic conditions and the pile will start to produce methane. This is a big no no, since the planet doesn't need any more. If you use a plastic bin, you'll have to be more careful not to create these conditions or you'll get a slimy, rotting, very smelly mess.

If you get into composting in a big way you don't have to be limited by your own biodegradable waste. You can find lots of places to get waste for free—people will even be pleased that you take it away. Most coffee shops have loads of used grounds that they toss away—it's a perfect compost material. Pet shops that sell birds have lots of poop and nothing to do with it. Local pubs and restaurants will have vegetable scraps, and grocery stores will be pleased to let you take home spoiled vegetables. You may have to provide containers and promise regular collection, but it's worth it.

Composting is the ultimate in low-key recycling, with no miles, little processing, and no packaging. And even if you neglect your pile of waste, with time nature will turn it into compost, the best and cheapest soil improver you will ever have.

## Rodents

Your compost heap is a unique wildlife habitat, home to hundreds of tiny creatures and a wonderful foraging opportunity for lots more. But occasionally you may have unwanted visitors such as mice or rats. They are actually pretty easy to get rid of. Mice can be a real nuisance in the garden, they love many seeds and are particularly partial to peas, beans, and tulip bulbs. Rats don't do much harm, but they are unpleasant and no one wants to meet one when dropping off their scraps.

There are three important things to know about the common rat. It is commensal, meaning it lives primarily by eating our food. It is neophobic, which means it is very wary of new things. It is thigmophilic, meaning it relies principally on touch to navigate. If you never turn your compost bin you unwittingly create a very comfortable rat home—an unchanging shelter full of food to burrow into. But the more you turn the compost, the less a rat will want to visit, because if it is a changing environment, rats won't create runs and certainly won't nest there.

Rats have certain food preferences and if you have or fear a rat problem it might be wise to stay clear of eggs or wash eggshells before you put them on the compost. Also avoid bananas and melon rind and be doubly careful not to put cooked scraps or bread into your heap. You can put all these into a worm compost bin instead.

Mice may nest in the compost during the winter when it's warm—turning the compost is the quickest way to discourage them. If you find toads or frogs in your compost, award yourself a gold medal. It's a sign that your compost is definitely alive and healthy.



## Build your own compost bin



The bin is loosely designed around a beehive, a simple design of stacking boxes with a pitched roof. I designed it to make it easy to turn the compost and speed the process. Once the bin is full you remove the roof, carefully take off the first box and place it beside your (now shorter) bin. This becomes the new base. You turn the exposed compost into this new base, then take off the next box and stack it on the first, and follow the same process for all three. It can be a little messy, but once you've done it once or twice you'll find you can flip the whole lot in no time. The more

you flip, the more the compost will break down. The quicker it breaks down, the quicker it shrinks, so a full bin one week will have space for more compost ingredients the next.

My compost bin is built entirely of reclaimed wood. To make it more attractive, I hunted high and low for substantial Georgian skirting boards, but it could be made out of virtually any wood, except chipboard. When chipboard gets wet it turns to mush and is totally unsuitable for using outside. I also used old pine floorboards, equally good would be timber from pallets, staircases, or shelves. In my neck of the woods, there is so much renovation going on that skirting board hits the Dumpsters daily, but if your local Dumpsters offer only rubble and rubbish you'll have to buy the wood. Always ask for wood approved by the Forest Stewardship Council.

To make the bin, you need an electric or hand drill with a  $\frac{1}{8}$ in. wood drill bit. You will save your wrists and time if you have a screwdriver head on your drill. I painted the entire box with primer paint before finishing it off with blackboard paint because I wanted the bin to look good and to extend its life. It's made from wood that was never intended to live outside, so the paint will protect it from the worst of the weather. The blackboard paint means you can draw on it, which is useful for first-time composters as you can mark the date of your first filling and know how long it's been in there.

### Materials

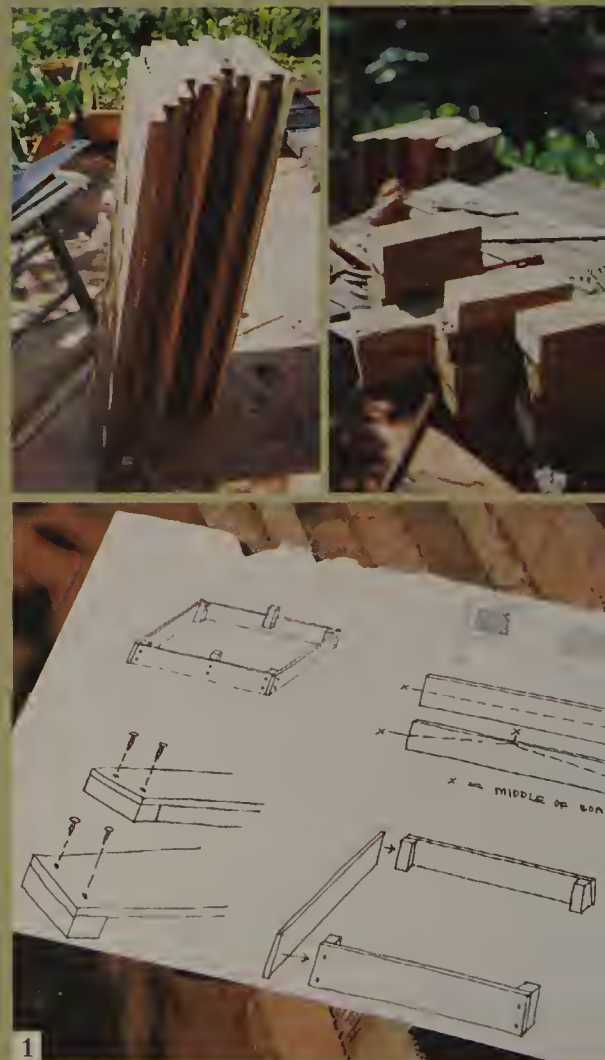
- 21 boards of equal length: 2ft. makes an effective small box, 3ft. is ideal for a larger space.
- 18 battens of a length equal to the width of boards
- 36  $\frac{3}{4}$ in. wood screws
- 1 can of external timber paint or stain, if using untreated wood
- Blackboard paint (optional)
- Wood saw
- Electric drill with  $\frac{1}{8}$ in. wood bit and Philips screwdriver head
- 2 G-clamps and a workbench are useful. If you don't have these, you'll need a spare pair of hands at some point.

### To create the boxes

If the wood has come from a Dumpster, it may need cleaning up. Remove any old nails or screws and sand off any plaster, glue, or other material. Cut the wood into equal lengths: 2ft. makes a good smaller-sized composter—I wouldn't go longer than 3ft. All your boards need to be the same length, but each layer can be a different height, so you can use up whatever width of wood you can find.

1. You will need to make three boxes. Each corner needs to be a proper right angle, so place each board flat on the ground and secure a batten to one end.

*(continued)*







2



2. You need to place a batten at one end of each board, making sure the edges are flush. Pre-drill guide holes through the whole lot and then screw the battens to the boards.

3. Then fit four boards together to make a box. It's easiest if you clamp the boards together before you drill. If you don't have a clamp, a spare pair of hands is useful. Make sure all the ends are flush. Some people find it easier to attach battens to both ends of two boards, then screw the other two unbattened boards onto these.

Repeat to make three boxes.

On two sides of each box you need to screw a batten, roughly 5in. long, inside the top edge to keep the boxes firmly stacked. The battens should stand 2in. above the top edge of each box. Fix each batten with two screws, drilling from the outside of the board. The battens don't have to be in the same place on each box.

### The roof

A roof is a good idea on a compost bin as it will stop nutrients being washed away by the rain and also help keep heat in during the winter. It isn't essential though—you could put carpet on top of the bin in winter instead—but a roof looks more attractive. You'll need nine boards, cut to the same length as your box

sides, three for the sides and six to cover the roof. I used skirting board again.

4. Take three of your pieces of board. Cut one board in half lengthwise. This will make the sides of the roof. On the other two boards, draw a line halfway, but don't cut. Find the middle point of each piece and draw a diagonal line from this to the half height mark at both ends of each board. This should give you a pitch. Cut along the diagonal lines on both boards. Join the four sides together with battens flush to the ends.



3



5. You will need six pieces to cover the roof, laid horizontally, overlapping to form a slope. Lay the bottom two boards first, these should overhang the edge slightly for water run-off. Screw these in place. Follow these with the middle two and screw them down.

6. The final two boards need to be placed so that there is a gap of about 2in. at the top to let small amounts of rainwater in and air out of the compost. You now have a pitched roof.

On the inside of the roof, attach two bits of wood (leftover pieces are ideal) to the back wall. These will act as hinges and stop the roof from falling off when you lift it up.

You can attach a prop on the inside of the roof to keep the roof open while you throw in your peelings. This should be roughly 2½ft. long. Use a screw to attach one end, making sure that it is loose enough for you to swivel the prop. On the other end of the prop, cut a small groove to rest on the edge of the box. You may want to hammer a nail to the inside of the lid to hook the prop onto, so it doesn't fall down each time you open the lid.

If you are composting on a deck, you could make a large tray for the box to sit on. The tray will have to be twice the size of the box so you can still turn it.





## Using your compost

I cannot emphasize enough about how good home-made compost is for soil. It's simply the best stuff you'll ever get hold of for free. Dig it in to see immediate improvements, or spread it thickly as a layer of mulch to keep down weeds and let the worms take it into the soil. You can also use it as a base for your own potting soil mix.

If homemade compost is destined for seed sowing, it has to be mixed with other ingredients. You never use it straight, it's just too rich in nutrients for baby plants—it would be a bit like starting them on steroids. Another thing to remember is that it hasn't been sterilized like store-bought compost, so if you use it as a sowing base, there's a good chance that some of your seedlings may be weeds.

It is satisfying to have your own potting mix for sowing seeds, but once you start making compost you'll find you will rarely have enough. If you use it as a regular soil conditioner and mulch, and add a layer to feed your containers, you rarely have any left over to make your own potting mixtures. You need to decide where it's needed most. In my garden, my thin, urban soil is crying out for richness and all my compost goes back into it. When I need seed-starting or potting mix, I buy peat-free stuff from a store, and all the hard work is done for me. But if your garden consists of a few window boxes or containers on a deck or a patio, then blending your own homemade stuff clearly makes sense.

The basic mix for seed-starting mix is two parts of homemade compost—sift any big lumps through some kind of mesh or old wire basket—to one part loam (which you'll probably have to buy), one part composted bark or home-made leaf mold, and one part sand.



**Above: Add homemade compost to holes before planting shrubs or roses to give them a head start in life.**

# Worm composting

Worm composting is the new cool because you don't even have to have an outdoor space to compost. Recycling is good ecology and economy, and the very best environmentalism starts and finishes at home. This is why having a compost bin is vital and if it's a compost bin filled with lots of bits from stuff you grew and ate, that's even better. It is a really appropriate use of energy, and an independent one. However, many of us don't have the space for conventional composting, so that's where the worms come in.

A worm bin is basically a composting system where the chief composters are worms. You naturally find worms in compost and this system exploits that so that you can make compost in a very small space.

## Worm-bin style

You can buy very good worm bins online. These range from a simple box or plastic bins to a stacking can called a Can o' worms, where the worms eat one layer of food, and then move up to the next, making harvesting the compost very easy. These tend to be fairly costly, but you can make your own from wood or plastic. I made a wooden one because it was easier to find the materials for free.

The minimum size usually recommended for a worm bin is 12 x 24 x 36in. but mine measures about 8 x 16 x 24in. With a squeeze, it can live under my sink in winter—it seems to work just fine. The size of a bin does depend how much waste you produce. If you don't produce much or you're using it as a secondary compost system, you can get away with the slightly smaller bin.

There are dozens of designs on the Web for DIY boxes as well as boxes to buy. But if you want a very simple one that works, try copying mine—it's just a lidded wooden box with holes drilled into the sides.

Wooden bins breathe better than plastic ones, but deteriorate quicker as the wood is permanently damp. Plastic ones need more holes to breathe and they accumulate more liquid. In some systems, this is collected and drained through a spigot to produce worm tea, a wonderful, nutritious brew for your plants. You'll need to dilute worm tea though, as it's really potent stuff—dilute with water by a third.





# My worm box

I started with a really sturdy box that I found in a Dumpster, but of course you could start by building a box from scratch using boards 1in. thick.



## Materials

- 2 pieces of board (12 x 36in.) for the front and back
- 2 pieces (12 x 24in.) for the sides
- 1 piece of board, 24 x 36in. for the base
- 32 1½in. screws

## To build the worm box

1. Pre-drill three guide holes ½in. in from the ends of the front and back pieces, with the top one about 1in. from the top edge. Pre-drill six holes ½in. in along the long edges of the base, four along the shorter edges. Using the pre-drilled holes as guides, screw the front and back pieces to the sides. Screw the bottom pieces on.

2. Once you have a box, you need to drill large aeration holes. You'll need a single row of six 1in. in diameter holes along the front, near the bottom edge, and a single row of holes along the back nearer to the top of the box. These allow the air to escape if the bin is too hot.

3. Next you need to staple or nail a screen over the holes. The screen needs to be made out of something non-biodegradable and you'll need to be inventive. I asked my hardware store and they gave me some metal screening that I couldn't even start to tell you what it was used for. You could use any fine mesh, such as a well-cleaned old fire-screen mesh from a Dumpster. It stops both debris and worms from falling out.

4. Finally make a lid. This could be a single piece of plywood or lengths of plank nailed together. To make a lid for the 12 x 24 x 36in. bin from planks, you need a plank of wood 8in. wide and 13ft. long. Cut the wood into three pieces 36in. long and two pieces 24in. long. Lay the three 36in. pieces next to each other horizontally and then lay the two 24in. pieces vertically over them. Nail or screw the 24in. pieces to the 36in. ones and you should have a lid. Now hinge the lid to the box with two

flush hinges—2in. work best. They must be flush hinges in order for the lid to fit snugly. My own box is hinged with some fittings rescued from an old wardrobe.

You need to raise the bin off the ground so that it doesn't rot. I used bricks, but you could screw some battens to the bottom. I painted the outside of the bin with a stain and garden furniture preservative. Never use stains or preservatives on the inside of a worm box as worms are sensitive to chemicals.

I use a bit of copper pipe as a prop to keep the lid open when I do maintenance. I guess if I'd thought harder, I might have incorporated a prop into the lid.

So there it is: a box with some holes in it, made out of wood, with a lid. Not exactly complicated. Next you need to make bedding and buy some worms.











## How a worm box works

The worms eat your leftover scraps and peelings, and they also eat the bacteria, molds, and fungi that break down the waste. Basically they consume decaying organic matter in very large quantities. Digestive enzymes in their stomachs break down the food and remove the nutrients. What is left is a mixture of soil, bacteria, and plant residue, and they poop this out in the form of worm castings. It is these worm castings that you will harvest.

Worms need bedding as well as food. Their food is your waste and their bedding doesn't just make life nicer for them, it also acts as somewhere for them to lay their eggs. Worms are such good house-cleaners that at a certain point they'll eat their bedding, so you have to replenish it every three or four months.

## The worms

You cannot dig up worms from a garden and put them in a worm bin. This won't work. Garden worms are soil-dwelling species. They don't process large amounts of compost, they hate confinement and they don't like being disturbed. Rather, you need composting worms that are usually red, characteristically wiggle a lot, and are often called brandling worms, or tiger worms from the genus *Eisenia* or *Lumbricus*. You may be able to get hold of some from a friend, or from fishing-tackle shops, mail-order catalogs, or online.

Worms are sold by weight rather than number. You need a 2:1 ratio of worms to food. One way to work out how many you need is to weigh your weekly scraps. If you have one pound of waste, you need two pounds of worms. If you're prepared to be patient, you can get away with fewer and let them breed, but you can't add all your weekly waste or you'll overwhelm the system.

## Worm bedding

Worm bedding holds moisture, provides a working environment for the worms, somewhere for you to place the waste, and ultimately becomes food for the worms. It's a source of carbon for them, so it's best to make it from a mix of several ingredients, including newspaper, coconut fiber (coir), soil, animal manure, leaf mold, wood chips, or shredded documents. Or you can buy it ready made.

Moistened bedding needs to fill three-quarters of your box. The easiest base is newspaper, torn into roughly 1in. strips. Stick to black-and-white print because colored ink is full of chemicals. Shredded documents and records are fine, but the paper is a lot harder to moisten than newspaper print. I find a coir block first soaked in hot water works well. Admittedly this isn't free, but it's clean, odorless, and retains moisture really well.

To your base material you need to add a couple of trowels of garden soil for grit. Worms ingest grit and then use it to break down food particles. It's their version of teeth, I guess. Soil also adds bacteria and fungi to help the composting process. To your base of paper/coir/leaf mold/wood chips or whatever you've decided to use, add the garden soil and thoroughly mix everything together.

NOTE: If you really want to get into worm composting then read the work of the pioneering worm farmer, the late Mary Applehof, 'Worms Eat My Garbage' or visit her site [www.wormwoman.com](http://www.wormwoman.com).

Opposite page, top left: **Make worm bedding by mixing shredded newspaper, coir, soil, and water;** bottom left: **Getting their new home ready;** right: **My new friends, worms from the bait and tackle store.**



## Worm food

### Good

Vegetable peelings—go easy on the onions

Cooked vegetables

Pizza crust

Vegetarian leftovers

Tea bags

Bread

Cake

Crackers

Baked beans

Pasta

Lettuce

Oatmeal

Pineapple rind

Any green veggies or vegetable tops

Apple cores

Coffee grounds

Banana peels

### Bad

Chilies

Hot curry leftovers

Corn on the cob husks

Fish/meat scraps—worms will clean bones, but meat makes the bin smell

Pet poop

Too much citrus as it contains limonene, which is toxic to worms.



## Maintaining your worms

An hour or two after you've put your worms in their bedding, you can start adding their food—your waste. I add the food wrapped in newspaper for two reasons: it helps to keep fruit flies down (at some point all worm bins will get fruit flies) and it constantly adds more of the carbon that worms need. It also means I can see when the worms are getting into the food, so I can work out whether I'm overfeeding them.

I bury the food in a different spot each time I provide their weekly feed, trying roughly to rotate around the area. Your worm bin should be moist to the

touch, not soaking and not bone dry. If the bin gets too dry, I water it a little. If it gets too wet, I add toilet roll tubes to absorb the water.

Worms don't like food that is over-spicy, salty, acidic, or too large to chew. If you treat their diet a bit like feeding a toddler, you can't really go wrong. They like a fairly bland diet—and remember they've got tiny mouths, so they can only eat tiny things or things soft enough to burrow into. Worms also need extra calcium and you can buy them calcium treats online, but eggshells are just as good so long as you pulverize them first.

## **Ideal worm home**

Your needs and the worms' needs can happily coexist somewhere in your home. Worms convert waste at 60–80°F. They can still work at 50°F, but once you get below freezing point you start to dice with death. At low temperatures, the worms just stop working, so if you want to work them all year you need to give them the right temperature. If you want to keep your worms outside, you might have to make the box a winter coat to keep them going. Bubble wrap or polystyrene packing from around a fridge or cooker is ideal—or bring them inside. Worms also need lots of air, moisture, and quite a neutral pH. A well-designed home should offer enough air, but keeping the box in a very small, stuffy place won't help. The pH is best determined by the food you give them, so make sure you don't put too many onions or orange peel in at once.

The best location for your worm bin has to be near the kitchen waste, that way you'll make sure you keep feeding them all your scraps.

## **Harvesting the compost**

How often you harvest depends on several factors: chiefly how many worms, how often you put food in, and the temperature at which the bin is kept. During the winter, in weather below 50°F, the worms don't do much, so if you keep putting in food the system will slow down. However, in the summer you'll be able to harvest every 2 to 3 months. Initially you'll have to keep looking to find your pattern.

The compost is ready when it is a rich dark color. It basically looks like a very dense, rich potting soil, and can be harvested in several ways. The laziest method is to do absolutely nothing until the whole bin has turned into very fine worm casts—say you feed them for four months over the winter and leave them for

four months—but this also means you'll probably kill your worms as they run out of food and start eating their own worm casts. It also means slightly less rich compost. A better way is to divide and sort. Once the bedding has diminished to the point where there's nowhere left to bury fresh waste, it's time to add more. Push all this good compost to one side and add fresh bedding to the other side. Bury your waste in the new bedding and after a week or so the worms will have moved over so you can harvest the good stuff. Do this every two or three months to keep the system going strong.

A third method is to divide and dump. Here you take out two thirds of the compost and add fresh bedding to the remaining third, which will have enough worms and cocoons left in to keep things going. This is the most low-key method, and you may need to buy a few new worms now and again if activity looks as if it has slowed down too much.

## **Using worm compost**

Worm compost, known as vermicompost, is superb stuff. It's particularly valuable to top-dress houseplants, adding more material and feeding them richly at the same time. If you want to sterilize the compost first to use it on houseplants, you'll need to remove any little hopping springtails. Place the compost between two sheets of plastic and leave it in the sun for a while.

Vermicompost is a prized additive to any potting soil. Add one part worm castings to four parts multi-purpose soil mix to add nutrients to the mix. When you're planting out seedlings, they'll be all the happier for a generous sprinkling of worm castings in the planting holes. Or scatter worm castings into the bottom of seed rows, giving the plants a rich source of nutrition to draw on soon after they germinate.



## Other homemade composts

Leaf mold is another sort of compost, made entirely out of leaves. Leaf mold is nature's best seed-starting mix as it has an open structure and holds moisture well. It's not much good on its own for mature plants since it doesn't contain much nutrition, but is best as a soil conditioner, a nutritious mulch, or as an additive to purchased compost for added structure.

Leaves don't decompose in the same way as garden compost, so don't put them straight onto your compost heap—they'll take much longer to break down than other materials. While regular compost uses bacteria to decompose, leaf mold needs fungi, which takes longer. The best way to make leaf mold is to gather all your leaves, or get them from the street, push them into a garbage bag in which you've punctured some holes, tie the bag at the neck, and let them slowly rot down. I like to put the date on to see how long it takes, and this stops it from being mistaken for rubbish and thrown out.

If you've got a large garden, it's easy to make a simple cage out of chicken wire—then you can make mountains of the stuff. If you're dealing with loads of leaves and you have a lawn mower, try mowing your leaves before you bag them. Breaking them up speeds the process of decomposition to no end. I've made leaf mold in under eight months using this method. Otherwise it takes at least a year.

Pine needles are a good source for making ericaceous compost for acid-loving plants. Let them compost for a year or two, they're slow to break down. Evergreen leaves take even longer than deciduous to break down—at least two years—so it's best not to mix the two types together.

### Green manures

Sometimes called cover crops, green manures are crops sown to cover an area that you can't use yet while adding fertility to it. They're most useful for newly established gardens as they rapidly establish themselves and out-compete weeds. Once they have done their job, you dig them into the ground to increase the organic matter in the soil and act as natural fertilizer. Green manures are also an excellent vegetarian substitute to animal manures, which are good for the soil but almost impossible for urban gardeners to get in reasonable quantities.

If it looks as though you're going to have a vacant patch of soil for even a few weeks it's worth sowing a green manure. There are three forms: quick-growing leafy types, those from the pea family, and those with deep fibrous roots. Red-purple flowered red clover (*Trifolium pratense*) is a pretty choice. It can be used as a short-term crop that is dug in a few weeks to a couple of months later, or it can be left to flower. It took me almost a year to get around to digging one patch, but I didn't mind as it made a lovely carpet of flowers and the bees go wild for it. Red clover can be used either as a short-term leafy crop to increase available nitrogen or as a longer-term crop so its fibrous root system can break up the soil, and it will add organic matter when dug in.

Winter rye (*Secale cereale*) and hairy vetch (*Vicia villosa*) are other useful cover crops. Winter rye has deep fibrous roots to break up the soil, but you can't sow anything else until three weeks after you've dug it in. Hairy vetch is in the pea family and, in common with all its family members, it has nodules on its roots that fix atmospheric nitrogen. Once dug in, this is released slowly to the crops that follow it. Hairy vetch can be used over the winter so that your ground is fertile in time for spring sowing.





Left: Collecting autumn leaves to make leaf mold, which takes about a year. Below: The end result—a dark brown crumbling mass ready for seed-starting mix.





Sowing  
growing  
& protecting







## Seed sowing

The building blocks of any thrifty gardener's paradise are seeds, tiny packages of promise that are sometimes free and nearly always cheap. Once you have mastered seed sowing, the world of gardening shifts a little and you'll soon realize how easy it is to create your own piece of heaven for almost nothing.



Seeds need four things to germinate and grow. They need water, light, the right temperature, and oxygen. By its very nature, a seed is in a state of dormancy—your job is to unlock it. Give seeds soil that is wet and warm enough and off they will go. Warmth is perhaps more important than anything, if it's too cold for you to be outside it's probably too cold for the seeds. As the old saying goes, the soil isn't warm enough for sowing unless you can sit on it with your pants down.

There is a general rule of thumb that the bigger the seed, the deeper it needs to be to germinate. For instance, light is so essential for tiny poppy seeds that they won't germinate if they are buried; they have to sit on the surface of the soil. Beans, however, need to be covered with soil, otherwise a seedling will struggle to get its roots down deep enough and will fall over when it sprouts—seeds root first and shoot later. If your soil tends to be heavy and wet, it is worth sowing spring sowings a little nearer the surface than the standard recommended depth, as cold, wet soil will often rot dry seed.

If you look at a sprouted bean and see how small and delicate the roots are, then you'll understand why a seed likes soft, gentle soil to grow in. However, if you've ever walked across a farmer's fields, they are full of lumps, stones, and things that gardening books tell you to get rid of at all cost. Farmers don't have time to go over their fields with a rake creating the finest tilth. The point is that a well-tilled seedbed is a good starting point and makes life easier, but if your soil refuses to break down into the perfect fine crumbly bed, don't give up. Just make sure you sow in the right conditions. Seeds are tough and designed to go it alone, they will come up pretty much whatever you sow them into.



Opposite page:  
Seeds come in all  
manner of shapes and  
sizes. Left: For  
something like  
lettuce, it's often  
easiest to scatter the  
seed liberally over the  
surface and then  
lightly cover with  
potting mix.

Page 87: Pricking  
out young seedlings  
by holding the seed  
leaves and supporting  
the roots.





Once your bed is ready for sowing, you need to water. Only water the area where you will sow seeds—this way you won't water the weed seeds as well.

### **How to sow**

It's a bad idea to open a packet of seeds and pour from it straight into the soil. You have no control, seeds go everywhere and you'll waste more than you germinate. Instead pour a quantity of seed into the palm of your hand and, if the seeds are small, move them onto the top line, your heart line. With a little practice you will be able to open and close your hand so that the seeds move down your heart line as if they are on a conveyor belt. For larger seeds like radish or spinach, I like to take a little pinch from the palm of my hand

and carefully drop one seed after another. Being an adept seed sower is a matter of some pride—the more you practice, the better you get.

A good seed packet will tell you when, how, and where to sow. It's important to sow at the right depth and to space seeds as it suggests or you could end up wasting a whole load. A point will arrive when you no longer need to check the packet; its information will be logged in your head along with telephone numbers and trivial pursuit facts, but until then keep checking.

### **Making choices**

When you're starting a new garden, choose annuals and vegetables to get you going. Few perennials flower in their first year and the plants take time to bulk up

from seed. Do have a go if you want to, but check the seed packet and know that it will be a while before you have bountiful plants. If you have a great desire for a plant or two of lavender in your garden, for example, it makes more sense to spend your money on a plant or take cuttings (more in chapter five), rather than starting from seed.

## Vegetables

Choose vegetables with your stomach and purse in mind. Onions are cheap to buy and, to be honest, there's not a huge difference in taste, so it might not be worth growing them yourself. Lettuce leaves, on the other hand, particularly off-beat salad leaves such as spicy, colorful ones or cut-and-come-again varieties should be prized for home growing. A sun-warmed tomato straight off the vine, wrapped in a basil leaf, makes a mockery of any tomato you buy from a store and everyone should have at least one summer when they savor this experience. If you're gardening in a small space then looks matter too, choose for color and shape as well as taste so that plants really earn their space.

Seed companies are quick to recognize a trend and many now offer varieties that are particularly suited to growing in containers. Compact tomatoes are especially popular, and there are varieties small enough for hanging baskets. Provided your containers are large enough, bush-type squash, zucchini, and pumpkins are even a possibility.

If all you have is a windowsill, porch, or neglected front garden, herbs are the way to go. Fresh herbs make such a difference to food; they can turn an emergency frozen meal into something tasty, and make a homemade meal extraordinary. On the whole, they are easy to grow. Most Mediterranean herbs—basil,

Opposite page: To sow in a row, create a line and then scatter seeds evenly down it. Next cover the line up and then water.

Below: Dahlias have long-lasting flowers that are superb in vases.

oregano, rosemary, and the like—need sun for at least half the day. Mint, parsley, sorrel, and chervil prefer sun but will grow in shade, but not deep shade.

## Flowers

If you hanker after flowers, choose from hundreds of annuals, biennials, and perennials. Whatever your whim, you can choose for scent, for color, or for picking. The only caveat is to beware of packets offering mixed colors. Unless they are all pastels, they too often turn out to be a garish version of the packet photo.

Seed typically stores for much longer than the sell-by date on the packet. The best way to store your seed is in your fridge. A half-used packet will work just as well next year, and probably for several years after that, if you tape up the flap and keep the packet in a container in the fridge. It is very important that the container is airtight as moisture quickly degrades seed.

Some large seed houses offer old stock at discount prices and this is one way of getting some really





interesting stuff at bargain prices (see my recommended companies on page 175). As the seed is past its first season, germination may be reduced, but rarely to the point where you don't get anything coming up, and an abundance of cheap seed will let you experiment and try new things.

The best seed is free, and there are loads of ways to get it. You may find it on a walk, get some from neighbors or seed-swapping events (see chapter eight), take it from fruit, or save your own. You can also join various organizations that specialize in creating seed banks of heirloom or garden varieties. Usually for the price of the membership you get to choose from an amazing range of varieties.

### **Growing heirloom varieties**

Heirloom vegetables and flowers are varieties that have been around for decades and are pollinated by bees and other insects rather than by humans. Naturally pollinated varieties are known as open-pollinated. Around the 1950s, horticulture began seriously developing increasing numbers of hybrid plants on a wide scale. Hybrid plants are artificially cross-pollinated. Many of these hybrids are F1 cultivars, which are bred for particular characteristics like higher yields and more uniform size—many would say that these characteristics are favored over taste or smell. F1 stands for first filial generation. This means you select two parents with characteristics you like and produce first-year hybrid seed. Seed produced by the first year's generation won't reliably produce exact copies of that hybrid, and often loses its yield potential. What this means to the home gardener or farmer is that you can't save this seed for next year. If you want that cultivar again you have to buy it.

There is nothing wrong with F1 hybrids per se. F1 food crops have done a lot for farming and feeding people. But their introduction has meant less variety and choice, and for some farmers it has meant the loss of a way to support themselves. Everyone should grow at least one heirloom variety in his or her garden. Seeds saved from heirloom varieties will come true to type and will also adapt to your local conditions. When you save them you widen the gene pool for the next generation. When you harvest heirloom vegetables, you get to taste a little bit of history, and sometimes that taste is mind blowing.







Opposite page,  
top: Dahlia flowers;  
Bottom: Some of  
the cheapest flower  
seed comes in mixed  
packets called  
'cottage' or 'colorful  
mixture.'

Left: Carrot seed is  
very unstable and  
doesn't last long, so  
use up the packet  
within the year.





Above: Recycled seed trays. First, melt drainage holes through the plastic (top left). Fill with seed-starting mix almost to the top and scatter seeds (top right). Gently firm seeds into the mix (bottom) and water.

### Where to sow seeds

Many seeds are happy sown direct into the ground, some are unhappy anywhere else, and some prefer alternative nursery accommodation.

Most vegetable seeds (except Mediterranean types) and hardy annuals have a sporting chance if you sow them directly into the ground, but you're more in control if you sow some varieties into containers and transplant seedlings into the soil. This particularly applies to any that need specific conditions in terms of temperature, light, and water.

Another reason to avoid direct sowing is that you're not the only one interested in your seeds and seedlings. Slugs, snails, mice, and birds are also on the lookout, and it's easier to defend your bounty before it's

planted out. If you can get seedlings to a decent size, they stand a better chance of surviving attacks, and if the worst happens and nearly everything you plant out is munched to death, you can have reserves left in a tray to fill the gaps.

Those of you who garden in a community garden or even a nearby abandoned lot should start your seedlings at home where you can keep an eye on them every day. If you can only visit your plot on weekends in spring, this will save a lot of heartache over munched or frozen seedlings.

If you are not going to sow straight into soil, you will need good seed-starting mix. Multipurpose mix isn't the best for starting seeds; it's best to make your own or at least amend the regular mix. The best seed-starting mix is a mix of one third multipurpose or homemade potting soil, one third leaf mold, and one third vermiculite. Leaf mold is wonderful stuff for seedlings and a lovely home-made luxury. Don't worry if you don't have any, you can get away with vermiculite and compost.



If you don't yet have any home-made compost either, buy ready-made seed-starting mix. Always read the ingredients list: many companies put non-organic fertilizers or peat in their mix—the first are unnecessary, the second is unsustainable.

Either sow into seed trays (you can buy half sizes, which are useful for small gardens) or market packs. I like these for vegetables as you can put two or three little seeds in each section, thinning out the weaker ones and letting the strongest grow to plug size. Plugs are easy to transplant, and you can pop a plug straight into a gap when you harvest something else, so you don't waste a spot of space.

It's tempting to sow a whole tray with one packet, but hold back. Say you have ten market packs, that's potentially sixty identical tomato plants that you're either going to have to pot on or throw away. Instead, work out how many plants you want and then throw in a few extra as back-up. Either sow a selection of varieties in separate rows, or fill the tray with other plants with similar germination requirements.



### *What to sow where*

#### **Sow direct into the ground**

Carrots, beets, radish, salisfy, red orache (*Atriplex hartensis* var. *rubra*)

Carniflowers (*Centaurea cyanus*), pot marigolds (*Colendula affinalis*/ top left), scarlet pimpernel (*Linum grandiflorum*), love-in-a-mist (*Nigella damascena*), honesty (*Lunaria annua*), annual poppies (*Papaver commutatum*), (*Papaver rhoeas*), (*Papaver somniferum*), gageas, nasturtiums

#### **Sow either in pots, trays, or direct**

Lettuce, oriental greens, brassicas, spinach, peas, beans, Swiss chard (top

right), parsley, coriander, zucchini, squash, melons

Sweet peas (*Lothyrus adaratus*, best in pots), California poppies (*Eschscholzia californica*), (*Cerintho major* var. *purpurascens*), stocks (*Matthiola longipetala* subsp. *bicornis*), pansies (*Viola x wittrockiana*) but in pots

#### **Sow only in trays, modules, or pots**

Cucumbers, tomatoes, peppers, eggplant, onions, chilies, basil

Casmas (*Casmas bipinnatus*), morning glory (*Ipomea*), mint, dahlias, busy Lizzies (*Impatiens*)





Left: A recycled bottle waterer. Opposite page: How to prick out. Carefully tease the seedlings apart, making sure not to tear the roots, and pot on into individual pots.

## Watering seedlings

Seedlings need gentle watering. Great gushes of water from a watering can will disturb the soil and roots and knock the seedlings over. Either use a watering can with a fine rose, or use an old bottle, preferably with a wide mouth. Poke small holes concentrically around the lid of the bottle and fill it with water. Keep it on the windowsill with the trays, then it will be sun-warmed when you come to use it and your seedlings will love you for it. Seed mix should be kept moist. If you put your finger on the surface, it should feel damp, but not wet. If you have covered your seeds with a polythene bag or clear lid, it should mist up with condensation.

## Pricking out

Seedlings, especially those grown in small trays, quickly outgrow their space. At this point you need to prick them out. This is when you give each individual seedling its own space. You'll often find you have more seedlings than space. Be ruthless at this stage or your home will get overrun with plants that are too tender to go outside. When space is an issue, prick out 50 percent more than you think you need, which is a generous allowance for failure, and no more.

Never handle a seedling by its stem; it is so young and tender that you'll do it damage. The same goes for the roots; instead hold a seedling by its leaves. Depending on its stage of growth, your seedling may have two different types of leaves: baby ones, called seed leaves, and true leaves. Seed leaves feed the plant until the true leaves appear—this is why seed mix doesn't need food. Always hold the seed leaves, as these are tougher. You can use a pencil, chopstick, or pointed plant label to separate seedlings—support the weight of the roots with the pencil as you lift each seedling from its soil.

The next stage is potting on. Seeds started in trays will be hungry by the time they've outgrown their space. It's usual to plant them into a 3in. pot so they can start to develop a proper root system. I sow most vegetables directly into the larger market packs and let them stay there till planting out. Peas and beans are best sown straight into 3in. pots or recycled yogurt containers.

Potting on at seedling stage is simple. Fill your pots or packs with seed-starting mix, make a hole in the center with a pencil and drop the seedling in. Seedling roots are damaged by firming the mix around them—gently push it with the end of the pencil and follow with a gentle drink of water to firm them in.







# Solving problems

If your seedlings are long and floppy, it means that they have had too much heat and not enough light. Rescue them from getting leggy by burying them almost up to the seed leaves when potting on. This should work fine as long as you don't overwater.

Light is vital at seedling stage and some gardeners put their trays under light boxes to make sure seedlings get enough light. I don't personally think this is a good plan, for seedlings or the environment. The most likely cause of leggy seedlings is that you started your seeds too soon and nature can't catch up. It is surprising how well seedlings are adapted to the seasons; a week or so may make little impact on us, but seedlings can utilize every second of extra light.

## Damping off

Sometimes all your seedlings seem to be doing well, then the center ones die and, as soon as you turn your back, the rest join them. This is called damping off. It's a broad term to describe a group of fungi that kill seedlings. Usually the stem rots at the base, which is why it falls over, sometimes the leaves change color first.

There is no cure for damping off. If it happens, cut your losses and toss the lot before it spreads to other seedlings. Prevention is the only solution. The fungi are spread in water and soil, so don't overwater—the usual sign of overwatering is a green tinge on the surface of your potting mix. It can be a good idea to cover your seedlings with vermiculite instead of soil—vermiculite holds available water until the seedlings need it.

One solution, if you are getting a lot of damping off, is to microwave your soil. Seven minutes in a microwave-safe dish will thoroughly sterilize your soil.

Just don't cook anything immediately afterward as the microwave smells a bit funny for a while.

You must also keep everything scrupulously clean. Wash your containers thoroughly in hot water and biodegradable household disinfectant before using them. And make sure there is good ventilation around your seedlings; open the window a little on sunny days.

## Poor germination

If your seeds don't germinate, it will be for one of three reasons. Perhaps you buried them too deep, which usually goes along with overwatering. If you dig around, you'll find them rotting. If the conditions are right—correct temperature, light, and good potting mix—you don't need to water your seed trays until the first seedling leaves appear.

Temperature is another factor. Seeds stay locked in dormancy until they receive the right temperature. Your seed packet will tell you the ideal temperature for germination, so if you have persistent problems get a soil thermometer. I became a much, much better gardener once I knew the temperature of my soil.

The third possibility is that you are just being impatient. Some seeds take less than a week to start life but others, such as trees, can take over a year.

A propagator does hugely increase the speed and the range of what you grow. If you get hooked on seed sowing, it's a worthwhile investment. There are long, thin versions designed to go on a windowsill, which are useful for small apartments. If you've got more space, a covered front porch or an old greenhouse, how about starting a co-op with your friends. You'll germinate everything, your friends will provide the space to grow, and you can pool the produce.





Left: These coriander seeds have grown leggy from too much heat and too little light. However, they are still good to eat. Add them to salads.





Cold frames are a half-way house  
between cosseted indoor life and the  
big bad world.

## Hardening off

Seedlings may be perfectly happy indoors, but life can't stay that way and they will have to venture into the great outdoors—what a shock that can be. The trick to getting your seedlings from indoors to out is called hardening off. One of the most effective methods is using a cold frame. This keeps the worst of frost, wind, and rain off the seedlings and allows them time to acclimatise.

A cold frame is basically a box with a clear lid, and easy to make. You could make do with a thick cardboard box with a sheet of plastic or glass over the top—polystyrene boxes or old styrofoam coolers are great—or you can build an instant version using bricks and an old windowpane.

For a more permanent solution, you can build a decent-sized cold frame from reclaimed pallet wood. For the roof, you can buy Plexiglas, or regular glass or, if you're lucky, you might find a window and frame intact in a Dumpster. These make the best lids as you can open the window in increments to acclimatise the seedlings.

Seedlings need to spend around two weeks in a cold frame before they are hardened off. Open the lid during the day and close it at night. On bright days, they will need shade—plastic netting or old net curtains over the top of the box does a good job.

# Building a cold frame from old pallets

## Materials

2 pallets  
60in. of 1½in. x ½in. round sawn  
timber for battens  
Sheet of Plexiglas  
1½in. oval wire nails

## To create the boxes

Try to hunt for the strongest pallets, all of a similar size. Never take returnable pallets, but look for ones in Dumpsters. With your spade, carefully pry the pallets apart, removing the nails as you go. You will need 20 to 24 lengths of pallet timber. This is easy to write but often very hard to do. Prying something that never wanted to come apart requires patience. Look for new pallets where possible: wet, rotting, or old timber just cracks immediately.

1. Make the back panel by nailing six lengths of timber together, with a length of batten at each end.

2. Make the front panel by nailing four lengths of timber together, with a length of batten at each end

3. You can either make the sides out of more pallet timber or Plexiglas and battens.

4. Make the side panel by nailing six lengths of timber together, with a length of pallet timber at each end.

5. Mark the height of the front panel on one end of each of the side panels.

6. Use the wood saw to cut the top slope into each side panel, then nail the side panels on to the front and back panels.

The Plexiglas lid can be weighed down with some bricks or, if you are feeling handy, you could create a frame and attach it to the box with hinges.





## Late sowing

I love seed sowing, but I also know how easy it is to miss the moment to sow—and there's your tomatoes gone for another year. Or not. Luckily, you can often cheat.

Should you miss the right weather for sowing Mediterranean herbs, such as basil, don't worry, the garden center has done it for you. If you look closely, you'll often see that those pots of basil, parsley, and coriander are loads of leggy seedlings growing together. You can carefully tease them apart and you've instantly got lots of basil plants. Trim the roots and pinch out the top sets of leaves, then plant them in containers or in the ground. Give them a soak and some liquid fertilizer, such as nettle, comfrey tea (see page 113) or liquid seaweed, and they'll soon be happy.

If you really don't have time to sow or you seem to have hit a rut of bad batches, bypass the whole stage and get mail-order plugs online or from catalogs. They're not cheap, but all you have to do is plant them and they're off. It may not be the thriftiest way to garden, but don't beat yourself up about how you get started—growing from plugs is not inferior to growing from seed, just more expensive.

On the other hand, plugs of bedding plants can be incredibly cheap, and since many bedding plants need heat to germinate, buying them is often the best solution, especially if you've got limited germinating space. They're rather an old-fashioned thing to sell, and you're more likely to pick them up from traditional nurseries and garden centers rather than big box stores.



Above: Good to go. Plugs are an easy way to start growing vegetables. Opposite page: Thinning beets seedlings. Baby beet leaves are delicious, so don't waste thinnings.

## When to plant out

All tender plants, including all seedlings, have to be planted out after the last frost. But if you find yourself with rows of little plants and a freak weather report, just get some fleece, newspaper, or even branches and cover your plants overnight. A healthy plant is surprisingly strong and will make it through. If you're worried about the weather, most Internet weather sites have worked out that they've got a gardening audience and offer alerts on frosts and even advice on when to plant out. Google "garden weather" and you're bound to find a site to suit.

## Thinning

Plants need space, so thinning is vital. Imagine if you asked a bunch of schoolkids to stand shoulder to shoulder, then asked them to raise their arms up slowly, as if to do jumping jacks. You'd get lots of little kids bashing each other's ears. But if you removed every other kid from the line, they'd have more space and, if you thinned them out to one in three, they'd be in jumping-jack heaven. That's the principle of thinning. It may seem an extravagant waste to take tiny little seedlings and throw them away—you can nibble vegetable thinnings as you go—but if you don't do it, none of them will grow properly. The back of the packet of seed will say what distance to thin to, but if you don't have that at hand, then guesstimate by imagining what size the vegetable will be when you want to eat it, then add another 4in. or so either side and you'll not be far off. The more space you give, the larger the vegetable, particularly with root crops like carrots and parsnips.

In general, the best time to thin a crop is as soon as the seedlings are large enough to handle. The trick is not to thin all at once. So if it says to thin to 12in.,

thin to 2in. one week, 4in. the next, and so on. If you immediately thin to your final spacing, chances are that a slug will come along for lunch and you'll find you have a row of three plants, instead of ten. You can eat almost all vegetable thinnings. If you are harvesting your thinnings for supper then use scissors, snipping off the young leaves at soil level. The roots will die back and you won't have to spend hours cleaning soil from tiny seedlings.





# Planting out

Planting out is joyously simple. You need something to dig with (which can be anything from a soup spoon to a spade), something helpful to put at the bottom of the hole, and something to water with. The helpful thing at the bottom depends on your plants. Drought-loving plants such as cacti, succulents, and lavenders hate wet feet so they'd appreciate grit to help with drainage. Roses and clematis would be pleased with moisture-rich food such as semi-rotted compost, and seedlings would like worm casts. Well-rotted organic matter—compost—is an important addition to any perennial planting hole. This will act as a source of food for the roots and will improve the soil conditions. You should consider spending as much on the hole as the plant. This doesn't just mean money, it means time spent getting the conditions right—good drainage, food, and moisture.

Water is the most essential factor. Forget that and you'll be marching your plant off to heaven. If the weather has been dry and your soil is thin, water the hole before you plant. Fill it right to the top and then walk away and do another job. After ten minutes or so, it will have drained away and the hole will be in perfect condition for you to plant into.

Any plant that has sat too long in a container has roots bound together, usually in a spiral shape from a round container. These need to be teased apart, otherwise the roots will continue to swirl around, never breaking out into the real world and, after a year or so, you may find the plant dead. If you pull it up, the rootball will be perfectly in the shape of the container in which it arrived as the roots will never have ventured out into the soil. This happens because the soil the plant was grown in was soft and easy and the soil in your garden was not. You have to be brutal to be kind. I tease out the roots by taking my pruners

and hacking liberally into the rootball—if it's a little plug, I'm kinder and just chop off the bottom quarter-inch instead. Wherever you cut, the plant will go into emergency action and produce new root hairs, and one root will branch into two and so on.

Do make sure you plant deep enough. Too often it's rather hard work to make a deep hole, so a plant gets jammed in with some of the roots exposed to the air. These will die off. It is safer to bury most flowering plants 2in. or so deeper than the level of soil they came in. This will form a bushier, sturdier plant. For seedlings, make sure that the bottom leaves don't sit on the soil surface or they will rot in wet weather.

Where there is a rule, there's always an exception. Never bury a tree or shrub deeper than its nursery line (the level where it's growing in the pot). Trees and woody shrubs hate having their bark buried, it begins to rot and slowly this kills the plant. For this reason, also make sure that the base isn't covered with mulch.

## Planting a tree or large shrub

A tree hole needs to be much bigger than the pot the tree came in. The best holes are square because the roots hit a corner then are forced off in another direction. Round holes and round pots can mean spiralling roots, so the tree falls over in the first big storm. The bottom of the hole should have good drainage, so you may need to add grit on heavy soil. You shouldn't put manure or rich compost in, for two reasons. The roots like this too much and won't head off exploring and, if the soil is clay the manure rots, creating anaerobic conditions that kill the roots. You can add slow-release fertilizer or well-rotted compost. I prefer to add something called mycorrhizal fungi. This is still a fairly newly available product, so I order it online; it's not a cheap product, but I find it the best.





Left: A good design trick is to mimic nature. Here foxgloves (*Digitatis*) are placed before planting to create a drift, as they might be found in nature.







Mycorrhizal fungi grow into the tree roots and produce enzymes that make phosphorus and other nutrients available to the tree. This happens because the roots that become infected with the fungi, called hyphae, form a fine network of thread-like strands. These extend the network of the roots. Out of a single root there may emerge up to 10 feet of hyphae. This allows the tree to explore more soil. I think this is really important, as instead of giving a concentration of food just around the rootball, you encourage the tree to explore the soil around, getting a more extensive root system and fending for itself. Slow-release fertilizers run out eventually, but it's hard to gauge when this is, and even harder for you to know how the roots are doing. Mycorrhizal fungi make for a more independent tree.

You should water the hole until it is filled to the brim at least once before planting and again once the tree is settled. A tree will need watering regularly for the first year of its new life in the ground, and that means at least every other week through the summer. Finally, you need to stake your tree if the site is windy or the tree is in a high-traffic area where it might get jostled.

If all this seems too much fuss, sow acorns straight into the ground or plant free seedlings and let nature do the rest, with no staking and no watering—free trees tough it out on their own.

## Staking

Staking is very important for newly established plants; tall, floppy plants such as delphiniums and climbers need something to grow up. A young root system isn't tough enough to support a plant in a strong wind. However, all plants need to rock around a little—a gentle rocking motion stimulates the roots and encourages them to anchor firmly. This is the reason that seedlings grow stronger if you gently run your hands over them to stroke them.

Most garden centers sell tree stakes fairly cheaply, or buy 2 x 2 in. rough sawn timber and cut to length. A stake for a tree needs to be one third the length of the tree height. This allows the tree to flex in the wind, causing the trunk to increase in thickness and strength. The stake should be angled at 45 degrees into the ground.

Make sure that the tie between stake and plant can expand—either use a flexible material or loosen the tie as the tree grows. A cheap material for young trees and shrubs is an old pair of tights. “Tight around the stake, loose around the plant” is the mantra for staking perennials, tomatoes, and climbers. It is usual to make a figure-of-eight loop between the plant and stake,



**Opposite page:** A shrub or tree needs to be planted into a hole just deep enough to take the rootball—never bury the trunk. Gently tease out the roots into surrounding soil. Back fill, firm in, and water. **Right:** Make sure the tie is tight around the stake and loose around the stem.



doubling the tie around the stake. This will allow the plants just enough “give” to move and grow without causing the tie to rub.

Bamboo canes are obvious garden stakes, but there are many other locally available materials. Dogwood (*Cornus*), willow (*Salix*), and hazel (*Corylus*) are prime candidates. Harvest poles during the winter and store somewhere dry for the summer. Willow roots easily as soon as it hits the ground; prevent this by covering the end with masking tape. Rolled steel bar often turns up in Dumpsters:  $\frac{1}{4}$ – $\frac{1}{2}$  in. diameter bars are very easy to bend into loops for climbers. If you can't easily bend it, place the steel around a lamppost or tree, roughly at the middle point of the length and then pull the two ends to your chest. It should bend into a U. It quickly rusts into an innocuous shade of brown.

## Watering

Water is crucially important to a plant. Most of us know to water in a plant once we've planted it, but too many of us think we can let nature do the rest. There are good reasons why this doesn't work. Most plants are grown in a nursery where they might be watered every day, and they are definitely watered every week. Next they go to a garden center where they're watered daily, and then they come home with you. Suddenly they go cold turkey from a drink a day because you've put them in the ground, given them one last drink and expected the rain to do the rest. These plants need your help to adjust; they need you to give them a good drink at least once a week through the hot months. That way you'll still be looking at them the following year.





## Watering tips

1. Every time you plant something, water it in well.
2. Plants in pots rely on you for water. In hot conditions, most plants need to be watered daily.
3. If you are planting in very dry ground, dig the hole, fill it with water, and walk away. Come back, fill it with water again. Only then should you plant, and you still need to water afterward.
4. Make a moated island of soil around newly established plants, so when you water it won't all run off but will go straight to the roots.
5. Water pots and containers so that water appears right at the top of the container. Only then do you know that you have watered all the way through the pot.
6. Turkey basters are useful for removing excess water from the saucers of houseplants.
7. Plants love sun-warmed water. Leave a full bucket next to containers and young vegetables.
8. If you have space and a drainpipe that you can convert, get a rain barrel. You don't have to invest in a tailor-made one, but hunt in yard sales, online, and in Dumpsters for industrial food barrels, old water-storage units, and cider or beer barrels. Make sure that you know what the contents were and clean the barrel out thoroughly before collecting water. Taps and converters can be bought from online garden suppliers or from shops selling beer-making kits.
9. Uncovered rain barrels will get mosquito larvae. Pour a small cup of vegetable oil into the water. It won't harm the plants, but will suffocate the larvae. Or you can add purchased Mosquito Dunks, which are a completely organic control for larvae.
10. If you're going away for a few days, let your houseplants water themselves. Cut a few holes in the lid of a plastic water bottle, cut the bottom off, fill the bottle with water and insert it upside down into the soil. The water will slowly drip into the pots.

Opposite page:  
**Free water—by collecting rain you save money and the environment. Make sure you install your rain barrel in early spring, so you've saved enough water by summer.**



# Feeding your plants

All plants need certain elements to grow. Carbon, oxygen, and hydrogen are the most important as these make up the chain for photosynthesis. Probably only first-year horticultural students can gleefully list every element that is needed, and why. The rest of us just need to know three—NPK. These stand for Nitrogen, Phosphorus, and Potassium. They are most important because they are needed in larger quantities than other elements, and they need to be readily available to the plant. Most general fertilizers are made up of various ratios of NPK.

Healthy soil naturally contains all these elements and many more. But poor, compacted soil may be lacking some of them, or they may be locked up in some other form and literally unavailable. I think I might go to my grave banging on about compost, but the message can't be overstated. The best thing for your soil is your own compost. Absolutely no question. Organic matter—your compost—is manna to your soil. It provides an excellent source of nitrogen, it increases soil microbial activity, which means pathogens are kept down, and it increases worm activity that in turn opens up the soil and adds more air. And where there's air and moisture, there are nutrients.

If your soil is tired or your plants look hungry, give them compost first. The rule of thumb is a bucket of homemade compost per square yard of soil. It's just as important to add compost to pots: feed them with a layer on top. However, there is a point when you'll need other fertilizers, either because your compost isn't ready or when you are growing in containers. In the summer you will have to liquid-feed plants in pots or heavy croppers, such as tomatoes, every two weeks to promote good growth.

Seaweed is another good fertilizer for organic gardeners. This is a good source of organic matter, it's

## Food science

**N** Nitrogen promotes leafy green growth. Too much delays flowers and fruiting; too little reduces yield and causes leaves to turn yellow.

**P** Phosphorus is essential for flower and fruit formation. Too little and you get purple stems and leaves, stunted growth, and poor yields of fruit and flowers. Phosphorus must be applied near the roots for a plant to take it up.

**K** Potassium is necessary for cell division in the roots. It also increases drought tolerance and hardiness, and enhances both flavor and color of fruit and vegetable crops. Too little results in low yields; mottled, spotted, or curled leaves; or a scorched or burnt look to the leaves.

high in nitrogen and contains numerous other elements. Most of us don't live close enough to the ocean to harvest our own seaweed. Fortunately well-stocked garden centers carry kelp meal, which is an excellent fertilizer. You can also buy liquid seaweed that you dilute and water onto plants. Seaweed is a tonic for stimulating good, healthy growth and best used as a supplement, rather like taking extra vitamins when you've got a cold.

Fish meal or kelp meal are good sources of slow-release fertilizer, particularly valuable for pots. It's a good idea to add compost or other slow release fertilizers to your containers at the beginning of the season. Use compost if you're trying to improve your soil.

## Comfrey or nettle tea

Some plants are so packed with energy and nutrients that they can be successfully used to feed others. Even

if you have to buy comfrey plants to start with, once they are established you may never need to buy commercially made plant food. Nettles are not quite so powerful, but always free.

Comfrey is a deep-rooted, hardy perennial that is found throughout Europe. Its leaves are high in potash, a source of potassium important for cell division, and also have good levels of nitrogen and phosphate. Three forms of comfrey make good all-round fertilizers. Common wild forms, *Symphytum officinale* and *Symphytum asperum*, are useful as leaves for compost or for tea. 'Bocking 14' is a cultivar of

Russian comfrey (*Symphytum x uplandicum*). Specially developed as an organic fertilizer, this form doesn't flower and instead puts all its energy into producing leaves that make an excellent brew. Comfrey can also be put on the compost pile to act as an activator and speed up the composting process. I tend to grow a clump next to my compost for this reason.

*Symphytum officinale* and *S. asperum* both seed freely.

**Below: Collecting comfrey. If you find a source growing naturally, make sure you ask the landowner before harvesting and don't strip the plant bare.**









If you know someone with a plant, ask them for a division or for some seed to sow in autumn. 'Bocking 14' is sterile, so you have to take root cuttings.

### Comfrey tea

Made from steeped leaves, this can be used as a general-purpose fertilizer or pick-me-up. On newly established plants, harvest only half the leaves and send any flowering stalks to the compost bin. Otherwise harvest by cutting the leaves right down to the ground. Established plants can be harvested up to four times a year. Stuff as many fresh or wilted leaves as possible into a container with a tightly fitting lid and fill it with water. Exact quantities aren't too important. Weigh the lid down with bricks and after ten or so days your brew will start to ferment.

You'll know it's doing well when you can barely get near the container, as comfrey stinks when it's rotting. That's where the tight-fitting lid comes in. I almost relish the smell now because I know that what most offends my nose will please the plants. My comfrey making is not an exact art and I don't tend to dilute it, but some methods make a concentrated solution which stores well. As a rule, I never use comfrey on houseplants because it just smells too much indoors.

Nettles also make an effective tea. Young, spring nettles make the strongest concoction. Like comfrey, when it really starts to smell you'll know it's ready.

**Right:** Chop up lots and lots of leaves and add water. By excluding light you speed up the decomposition process, but wait at least two weeks to brew. Filter the brew and water onto plants every two weeks through the growing season.





# Pruning & propagating







The truth is that only practice, time, and a good manual will make you a good pruner. You are not born good at this job, you get there through trial and error. It's the same with propagating, which just means ways of producing more plants. Once you've learned the basics, you can turn the one plant you could afford at the garden center into seven, you can take cuttings of things you like from friends' gardens, and before you know it you'll have a garden full of wonderful plants.





# The rough guide to pruning

First, you need to understand why you prune. It's done for three reasons—to remove unhealthy material, to control the size and shape of a plant, and to increase flowering and fruiting. First you remove the three D's—dead, dying, or diseased growth. Then you take out any branches that are crossing because these can rub against each other, leading to weak spots that provide potential opportunities for diseases and pests to get in.

Most pruning has to be done because a plant has outgrown its space. Take it slowly, savor each moment, consider the plant at all times. Pruning is the epitome of slow gardening. It is all too easy to get carried away and chop out far more than is necessary, but that usually means several years of puny growth. If an adrenaline rush of slash and burn steps in and you're verging dangerously near hacking the thing to within an inch of its life, then move away from the plant and go have a cup of tea.

It's generally a bad idea to prune in spring after new shoots appear because this weakens the plant and influences how it will produce more growth. Early autumn is another bad time as many plants will try to respond with a new flush of growth, which will then get hit by the frost. For example, apple trees pruned in late summer or early autumn will gamely send out new shoots, but this tender growth won't have time to harden off before winter and will definitely get blasted in the frost.

There are as many ways to prune as there are plants. There's no point in trying to summarize pruning down to a few steps. And you don't need to know it all. You do not need to know how to prune apple trees if all you have is a buddleja. Find out what you do have in your garden and do research. But if you want to have a go at pruning without a manual, first get to grips with a bit of basic botany.

**Left: Fast-growing shrubs such as buddleja can be cut back hard each year. This way, you can control shape and size.**



## Trees

All trees and shrubs produce buds. The topmost bud is called the apical bud and has what is known as apical dominance. This means that it produces hormones that restrict the growth of buds farther down. This stops overcrowding and competition. Look at a tree: you'll see the very topmost stem has apical dominance and is leading the way vertically. If you remove its tip or bud you will divert the source of hormones to the lower set of buds, allowing them to develop into stems. In turn, they restrict the buds below them.

This is the principle behind pinching out young seedlings to get bushy growth. You remove the tip so that the buds below can develop. But if you do this to a tree you may unintentionally affect its overall height. This is particularly true of conifers and upright-shaped trees with an obvious leader. If you cut it out you basically ruin the tree.

### Tree-pruning tips

If you need to take out a big limb where you'll need a big ladder, save yourself potential serious injury and hire a tree surgeon.

Only tackle small limbs that you can easily reach and where you don't need a chain saw.

Never try and cut off a whole branch in one cut; even smallish branches are

surprisingly heavy and hard to control with only one hand. Cut in sections to lessen the weight.

Cut underneath the branch first, this partial cut stops the bark from tearing down the trunk if the branch accidentally breaks.

Always try to prune deciduous trees when they are not in leaf.

## Shrubs

With shrubs, removing the top bud is rarely disastrous, in fact it often leads to the kind of bushy growth that is desirable. But where you cut does matter. If you have a branch that needs to be removed because it's in the way, don't chop it in half—this will get it out of the way for now, but it will quickly produce side stems, which in turn will grow back right in the way again. Instead remove the stem right down at the base of the shrub, ideally in early spring. Always prune dogwoods (*Cornus*), willows (*Salix*), and hazel (*Corylus*) this way. It's also the best way of pruning for foliage effects. *Catalpa bignonioides*, eucalyptus, the smoke bush *Cotinus coggygia* 'Royal Purple', littleleaf linden (*Tilia cordata*), and foxglove tree (*Paulownia tomentosa*) all respond well if you cut stems back to within two or three buds at the base, or to a framework such as a pollard.

Most prunings can head straight for the compost, but some can have a second life. Colorful dogwoods, hazels, and willows are easy to bend and can be made into simple low fences or supports for climbing plants such as sweet peas (*Lathyrus odoratus*) and beans. If you've got lots of prunings, you could get into making all sorts of fun garden structures from bentwood.

## Perennials

Perennials are plants that spend the winter dormant, sending their energy back into rootballs underground, emerging again in spring. By late winter, it's time to cut them back, although if you want to be wildlife-friendly save some till spring as lots of helpful insects sleep in dead plant stems. Cut woody stems down to the ground to allow for new growth; if some has already appeared, take care not to cut off any new shoots. A perennial is ready to cut back when it has virtually no



**Left:** Prunings don't have to be composted, they can be used to make fences or plant supports. I've used willow and dogwood here. If you can't use the material immediately, then keep it in a bucket of water so the wood remains flexible.





Above: Cut shrubs such as hazel, dogwood, buddleja, and willow right back to one or two buds. Top right: A good cut should have a slant so that rain-water runs off. Right: A bad cut—this cut was too far from the bud and has left an unsightly dead stub. Far right: Prune out any damaged growth.





green growth and only old brown stems and flowers. Pruning can also help many perennials into a second flowering halfway through the season. A good indicator that a perennial is gearing up for a second flush is when you have leggy, tatty, tall growth and lots of fresh new growth at the bottom. When you see this, prune off all the old growth and this will promote even more new shoots.

### Bamboos

Bamboos that have overstayed their welcome can be brought back into control with a late summer or early spring cleanup. Let air and light into overcrowded clumps by removing all old canes at the base, leaving only healthy young canes. Keep the prunings if they're straight to use as homegrown stakes. You can really get stuck in, it's hard to kill a bamboo—even if you chop off every cane, the plant will still spring back to life. If a bamboo has really outgrown its space, arm yourself with loppers, saws, and a good spade. Eat a couple of chocolate bars as it's hefty work. Then start hacking the rootball into sections, each with a healthy stem or two. Replant one of these and give the rest away to friends, but make sure that they have plenty of space or they might not thank you in years to come—if bamboos like you they can try to take over your garden.

### Grasses

Most ornamental grasses need an annual trim. If it turns brown by late summer, trim it back to the ground in winter. If it's still green in autumn, trim it back to the ground in early spring. Evergreen grasses just need a good hairbrush, take a spring rake and brush the clump vigorously and old leaves will quickly fall out. Do not cut evergreen grasses back to the ground—they don't like it.



Left and below:  
Ornamental grass can  
be given an annual  
trim. If it turns brown  
in autumn, then trim.  
If it is green in  
autumn, wait till  
early spring.





Right: Deadheading  
prolongs flowering,  
but if you want to  
save seed ease off  
toward the end of the  
season or else you  
won't have any to  
harvest. Opposite  
page, top: Pinching  
out encourages bushy  
growths. bottom:  
Deadheading violas.  
Pinching out with  
your thumb and  
forefinger is easiest  
on smaller plants.



### Pinching out

This creates bushy growth, which is why you're advised to pinch out so many types of seedlings—instead of a tall spindly plant you'll get a compact bushy one. Coleus also needs pinching out. Pinch out vigorous leaders to produce strong healthy side shoots—nip out the top when a young plant has reached five or six leaf joints.

### Deadheading

Deadheading helps some plants to produce more flowers. The more you deadhead, the more flowers you get. However, if you want to collect seed, you have to stop deadheading in time to allow the plant to set seed. This is also the reason why deadheading causes more flowers—the plant is desperately trying to produce progeny. If you remove the flower and don't let it go to seed, it will try time and time again.

Annuals generally don't respond well to deadheading. With certain bedding plants, such as petunias and pansies, deadheading is traditionally considered to prolong the flowering season, but as a student I was made to do a trial on deadheading versus doing nothing. There was very little benefit. I think the long and short of it is, if you like deadheading, go forth and deadhead and, if you can't be bothered, don't worry about it.

On the other hand, many perennials and most roses do well under a strict regime. You can literally just cut off dead flowers or stems on most plants, but with roses it's best to cut back to a healthy bud. This new bud will produce new shoots and, with luck, you'll get a second and even a third re-bloom. Some roses, including *Rosa rugosa*, are grown for their spectacular hips as much as their flowers. If you cut off the flowers you won't get hips, so stop deadheading these by late June to give the hips time to form.





# Pruning to manipulate plants

Many perennial plants can be manipulated for your benefit by pruning. You can extend or renew blooming, encourage new lush growth, reduce plant height, keep plants in their own spaces, and prevent or control pests and diseases.

## Cutting back for height control

Pruning to remove foliage is known as cutting back. If you're on a windy, exposed site, whether it's a roof garden or hill, you'll need to spend a good amount of your spring and summer staking. One way to reduce this is to cut back summer- and autumn-flowering perennials in early to mid-June before they flower, to keep their overall height down. In most cases this will cause more, but smaller, flowers. I don't think this is very noticeable and is a fine payoff for less staking.

This form of pruning is still experimental; there's a lot of research to be done and all plants respond differently due to climate conditions, age, and vigor. But in general this method delays blooming by at least two weeks, and the closer you cut the plant to its normal flowering date, the greater the delay in flowering. If you always go away for part of the summer, you can use this technique to make sure you come back to some flowers. It's worth trying on a few tough summer perennials. Balloon flowers (*Platycodon grandiflorus*) tend to flop, but if you prune them back to half their height in June you'll not need to stake. *Phlox maculata* and *Phlox paniculata* can be treated similarly. Cut back by one half when the plant is just coming into bud and you'll end up with a more compact plant.

Many autumn-flowering perennials make likely candidates. In wet summers, *Sedum* 'Autumn Joy' and other cultivars usually grow too lush and then flop to show an unsightly woody center. Chopping their foliage back at bud stage by one half or two thirds will

delay flowering, but you won't need to stake.

Rudbeckias often grow way too tall on rich soils and then flop and fold in the slightest wind. Solve this by chopping off two-thirds of growth just as buds appear, usually around early to mid-June. Joe Pye weed, (*Eupatorium maculatum*) will grow to a hefty 10ft. in a good summer. This is great if you have the space, otherwise chop by at least half in June for a more manageable plant—you can go as low as 1ft., but the plant will not flower below 3ft.

Asters often flop to expose their less attractive middles after a wet summer, which completely spoils their lovely autumn blooms. I've taken to chopping them by one half, sometimes even more for a very tall variety, in late May to get an improved habit. I find it doesn't substantially affect the flowering time.

## Doing the Chelsea chop

If experimental cutting back is not for you, this method is much loved, tried, and tested. Traditionally growers would chop back their spring- and early summer-flowering perennials just after the famous spring Chelsea Flower Show in London. Hence the name. This would cause any unsold plants to grow a fine flush of new growth in time for later summer sales. The trick with the Chelsea chop is to be utterly brutal and cut the whole plant back to its base. After your brutality, give the plant lots of love with some food and lots of water—the results are amazing.

## Good Chelsea chop candidates

Many hardy geraniums flower in May and June. Once they've finished flowering they tend to become leggy and unsightly. Cut them hard back right to their bases and they'll respond with new lush growth and a second flowering in good seasons. With some varieties



the old flowering stems fall outside the clump and a new flush of leaves appears in the middle; with these just trim off the old stuff.

The only hardy geraniums I don't prune back this way are 'Roxanne' which has lovely blue flowers in late summer and 'Ann Folkard'. This is one of the first to start blooming and doesn't quit till the first frost if left alone. Its sprawling habit makes it useful for hiding the bases of roses and clematis.

*Brunnera macrophylla* is spring flowering, with lovely delicate forget-me-not flowers. It can be sheared right to its base once it finishes flowering, to produce new foliage and flowers. Pulmonarias also flower in spring and often have unsightly foliage by summer. After they've flowered in spring, cut back all the old foliage, you'll often find new leaves coming up through the centers. Water the plants well and they'll respond with sporadic flowering in a mild summer.

Once delphiniums finish flowering, be brave and chop the plants right back to the ground—the whole

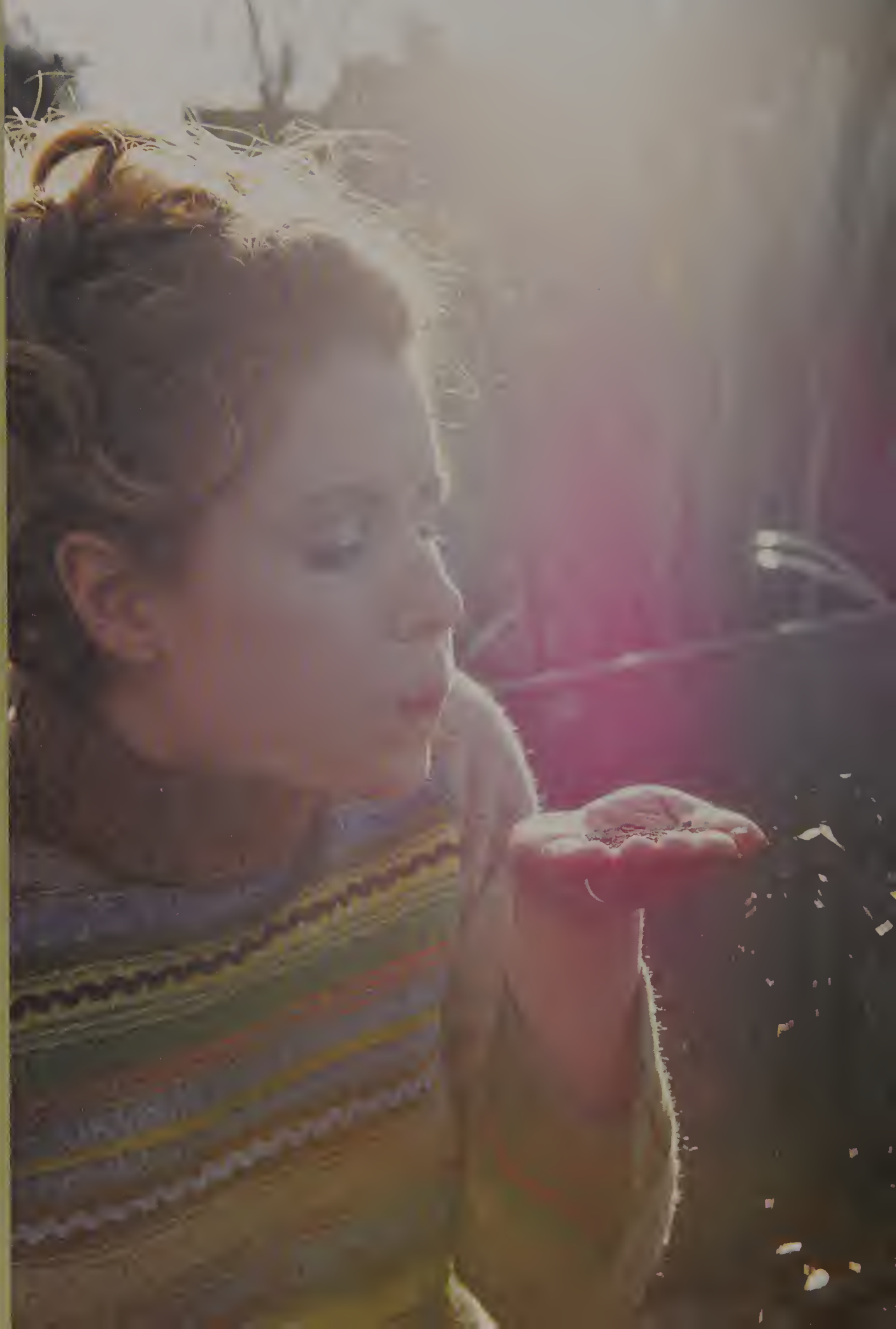
**Above left: Spent flowers on a geranium at the end of May can be given the Chelsea chop. Above right: Being ruthless and cutting back hard will mean fresh new leaves and flowers late in the summer.**

thing. You need to be quick here and not let them start setting seed. Feed and water every week (this is very important as you're asking a lot of the plant) and you'll get a whole second flush of blooms in late summer. You will need to keep slugs off the young foliage, and if you cut back hard every year you do tend to exhaust the plants, but you'll get great displays while they last.

Oriental poppies (*Papaver orientale*) don't produce lovely looking seedheads, so chop off any dead flowers. Once flowering has finished, shear all the stems back to the ground and water the plants to get a fresh new flush of growth. The old foliage quickly becomes brown and ugly, so you need to move quickly, and the second flush can be slow to appear in hot years. Overplant with annuals to fill the gap.



Right: Seeds are the cheapest way to fill out your garden. Look for colorful annuals such as poppies that you can allow to self-sow around your garden.



# How to be a propagating genius

The cheapest way to fill up a flower garden is to learn how to propagate. Plants have two ways in which they can reproduce, sexually via seeds or asexually by vegetative propagation. These two routes have enabled plants to colonize the world and each method has distinct evolutionary advantages. Sexual reproduction by seed offers an infinite array of genetic variation. It is a plant's way of adapting to an ever-changing environment. However, if plants find themselves in the right conditions then asexual reproduction offers a way to colonize an area very quickly. Many of our worst weeds use vegetative reproduction—couch grass, bindweed, mare's tail, and nettles all use tiny fragments of broken roots to take over our gardens.

Vegetative reproduction varies a great deal in plants. Some plants do it through their roots, bulbs, or suckers. Some do it with their stems, by layering of rooting stems or stolons (horizontal stem), sometimes called a runner—the humble spider plants produces masses of stolons, each new spider develops on a stolon and will grow to be a separate plant. Others have evolved to reproduce through leaves. Plants have this ability because their cells can differentiate to become a leaf, root, or stem very quickly.

A good guide to knowing how a plant will reproduce is to look at its family. For instance, the plants in the mint family are easy to identify as they all have square stems, including rosemary, salvias, lavender, and mint. All readily root from stem cuttings, any stems close to moist soil will produce roots. The stonecrop and houseleek family (Crassulaceae) are all adapted to live in steep, hot, dry rocky places. Many from this family, such as echeverias, crassulas, and sedums reproduce from offsets and fallen leaves. If you remove a leaf of an echeveria and put it in very free-draining, gritty soil, it will root, exactly as it would in nature.

## Easy propagation

With a bit of practice, anyone can propagate plants by sowing seeds, by dividing clump-forming plants, or by taking cuttings.

You can sow seeds of just about anything, but some will take years to germinate. The only way to propagate true annuals and biennials is to sow seed. Annuals live out their entire lives within a season. That means they germinate, flower, set seed, and die within a year; for some, their lifespan is a matter of weeks. Most vegetables and many weeds are annuals.

Biennials are a longer version of annuals; they need two seasons. In the first season they form roots and a rosette of leaves, in the second season they flower, fruit, set seed, and die. A common biennial is the foxglove (*Digitalis purpurea*); it forms a rosette of leaves in year one and its flower stalk in year two.

Perennials can live for years and years and most flower every year, although some take a very long time to get around to it. A relative of the pineapple, *Puya raimondii*, takes on average 150 years to flower. All perennials spend the worst season asleep. (Tender perennials like coleus are an exception. They're grown like annuals or overwintered indoors.) If a plant doesn't flower and set fruit and die within two seasons, it's a perennial. Trees, bulbs, conifers, and woody shrubs are all perennials, but the term is mostly used for herbaceous perennials—non-woody plants that may last anywhere from a few years (short-lived perennial) to decades. Some herbaceous perennials are evergreen, but most drop their leaves and die back to ground level, to leave only the dormant underground roots, rhizomes, bulbs, or tubers waiting for the right conditions to come again.



## Dividing perennials

Division is the easiest form of propagation for all herbaceous perennials with fibrous roots, such as geraniums and hostas. With a few rare exceptions, you can't divide woody plants.

You simply dig up one plant and pull or ease it apart, or slice it with a spade into several self-supporting ones. You can split a plant many times, but each section must have at least one bud or shoot and its own roots. If a plant is quite small, you can tease it apart by holding the sections just below the bud and pulling gently. This is quick, easy, and will yield many small plants. It's a good way to propagate overcrowded purchased plants; just take a perennial, divide and repot each section, and wait till they get to a decent size to plant out.

It's generally most useful to divide a plant when it's been growing for a few years, so that each section is a decent size. Nearly all perennials need dividing at some point in their lives in order to keep their growth vigorous. The rule of thumb is to divide every five years or so.

You can divide at any time of year, but if the weather's hot you'll have more work on your hands. That's why most people choose to divide in autumn or spring, when the plants are dormant and the soil still workable. Irises and spring-flowering plants are best divided in early summer after they've flowered. Plants that flower in early to mid-summer are divided in autumn. Late summer- to early autumn-flowering plants are best divided in early spring, before they get going again. This applies to houseplants just the same as to those outdoors.

If your plant is a large beast, such as a huge clump of daylilies or a giant ornamental grass, teasing it apart with your hands isn't an option. You can split an awful lot with a sharp spade; just hack a section out, making sure you have buds, roots, and stems, and throw away any woody bits. For ornamental grass and anything with really matted roots, try using a saw. Dig the plant up and saw it into sections. Replant all your divisions into new homes with good compost and water—this should kick-start them into new life.





Opposite page  
and left: How to  
divide a perennial.  
Fleshy rooted  
perennials such  
as this daylily  
(*Hemerocallis*) can  
be easily split into  
sections. This needs  
to be done roughly  
every five years to  
keep plants in good  
shape.



## Cuttings

Most cuttings are taken from plant stems, but you can also take them from leaves or roots. Some plants want to root so badly that all you need to do is put them in a jar of water and they're off. Mint, coleus, watercress, penstemons, tradescantias, and succulent begonias will all root this way. Just take a stem, cut off the lower leaves, and make a clean cut across the base with a sharp knife, before putting the stem in a jar of water. Keep the jar topped up to keep the stems submerged and wait two to four weeks. Once the roots appear, pot young plants into good potting soil and water often for the first couple of weeks while the plant adjusts to its new life.

Other plants need a little more persuasion and you can wait from two weeks to four months to get roots. All cuttings taken in late summer need to be protected from the cold over the winter, indoors or in a cold frame. Plant them out in spring.

## Woody plants

Softwood cuttings are taken from healthy young stems, usually from the first flush of growth in spring. These cuttings root readily, but because they have a lot of green growth they can easily dry out. Softwood cuttings are used to propagate mainly deciduous

trees, shrubs, and climbers, such as clematis, hydrangeas, and deciduous viburnums. These should root in four to six weeks.

A hardwood cutting is taken from something like willow, dogwood, boxwood, deutzia, and forsythia in late autumn. Look for this year's well-ripened (no longer soft) growth, and take 8in. lengths with a horizontal cut just below the node at the base of each cutting. Cuttings taken in autumn should have rooted by spring.

## Nodal, stem tip or soft tip cuttings

It's traditionally recommended to take the tip of the stem as a cutting from perennials or non-woody plants. This is because it contains the powerhouse of new production—both the growing tip and the node where the rooting hormone is produced.

Take cuttings from healthy shoots 3 to 5in. long. Cut just below a pair of leaves—at the node—with a clean sharp knife, then remove the lowest pair of leaves from your cutting. You do this because in all plants the natural growth hormones congregate at the node, just below a leaf joint. These hormones initiate the new roots. To speed things up you can dip the cuttings in rooting powder.

Your cutting should have no more than one or two sets of leaves, any

more will exhaust the new roots. Place cuttings around the edge of a 6in. pot, or in market packs, filled with cutting or seed compost. Carefully firm in the cuttings and gently water. Cover the pot or packs with a plastic bag to maintain the humidity, but make sure the bag doesn't touch the cuttings, and keep them out of direct sunlight. Prime examples include pinks and carnations (*Dianthus*), penstemons, New York asters, autumn-flowering chrysanthemums, and sage (*Salvia*).

Cuttings taken from side shoots on the lower part of a plant usually root better than cuttings taken from higher up. And thinner cuttings root faster than fat ones. Take cuttings early in the morning when plants are turgid, and if you don't have time to pot them straightaway put the cuttings in a plastic bag, seal it, and put them in the fridge to deal with later the same day.

## Stem or internodal cuttings

Some plants root so readily that it's a shame to limit yourself just to the tip of the stem. Lobelias, asters, phytolias, salvias, and penstemons are particularly willing to root, so why take just one cutting per stem when you could have so many more?

The top of a stem cutting should be just above a set of leaves, the base

just below a leaf. Each cutting needs to be at least 2 to 3in. long. Remove the bottom leaves so that you have sufficient length of bare stem to insert into the rooting mix and treat exactly the same way as a nodal cutting. An advantage of internodal cuttings is that they tend to make bushier, better-quality plants.

### Leaf cuttings

A limited number of plants can be propagated from leaves; most of these are houseplants such as mother-in-law's tongue (*Sansevieria trifasciata*, see following pages), African violets (*Saintpaulia streptocarpus*), and rex begonias. Leaf cuttings can be taken at any time of year. Most will need to be kept at temperatures between 65–75°F and away from bright sunlight.

**Right: A penstemon stem tip cutting. A good cutting should be 3 to 5in. long, roughly the length of your thumb. Cut just below a leaf node and remove the lower set of leaves.**





# Easy plants to propagate

## Division by runners—spider plants and strawberries

Take a baby spider and snip it off the plant. Put some peat-free, multipurpose potting soil in a pot, poke a hole about 1in. deep in the center, and place the baby spider plant in it. Firm the soil around the spider plant, if it doesn't look secure then you can pin it down with a paperclip bent into a U-shape. Water and place in a warm spot on a windowsill.

Use the same method for strawberry plants and other plants that produce runners. Unlike the spider plant many runners don't develop roots while they're still on the mother plant, so you have to peg the baby plant into a pot while it's still attached. Once it has rooted, usually after a few weeks, cut off the runner close to the new plant.

## Leaf cuttings—mother-in-law's tongue (*Sansevieria trifasciata*)

If you thought the spider plant was too easy, this is even better—just cut a mother's tongue leaf into small pieces, put them into soil, and they'll grow again. These are called leaf cuttings.

Take a newly mature, healthy leaf and cut it off at the bottom of the plant. Now cut the leaf horizontally into 2in. sections, discarding the tip and the very bottom piece. Insert the cuttings into good potting soil in a seed tray or shallow box. It doesn't matter if the cuttings touch the sides, so cram them in. Keep the mix moist, but not wet, and place the cutting, uncovered, somewhere in bright but indirect light. They like moist warmth—around 70°F—so a warm bathroom is ideal. The important thing is to make sure that all the cuttings are placed the right way up—the way the leaf was growing—rather than upside down. In six to eight weeks, new shoots and roots will appear. Variegated *sansevierias*—the ones with yellow margins—can be propagated only by division in early spring. If you propagate from leaf cuttings, they'll all come up green.





Opposite page  
and left: How to  
take leaf cuttings.  
Choose a newly  
mature leaf and slice  
it into sections,  
remembering to note  
which way is up.  
Then insert the  
cuttings into a  
free-draining potting  
mix. Keep moist  
and somewhere  
sunny and you'll get  
lots of babies.





How to root penstemons. Top left: Two methods of rooting: water saves on potting mix if that is a commodity. Bottom left: Remove any lower sets of leaves. Above: These cuttings are ready to pot on.

### **Stem-tip and stem cuttings—penstemons**

Penstemons are common garden-center plants as they flower their socks off for much of summer. They are lovely plants from which to start taking stem-tip cuttings, and they root so readily they'll oblige in a jar of water as well as in seed-starting mix. To root them in water, take cuttings 3 to 5in. long from healthy shoots that aren't too leggy. Trim each cutting just below a set of leaves and remove its lower leaves, to end up with a good portion of the stem in water with a top pair of leaves sitting above the jar. To prevent cuttings from falling into the jar, wrap garden wire around the neck or place some wire netting over the jar and insert the cuttings between the wire. Keep the water topped up and, after two to four weeks, you should have lots of well-developed roots. Pot each cutting into a 3in. pot, and water.

To start cuttings in pots, fill a 6in. pot with seed-starting mix and use a chopstick or pencil to make several holes around the edge. Place the cuttings in the holes, gently firm them in, and water. Keep the cuttings at the edge of the pot as they like to have a slightly constricted space in which to grow roots. Place a clear bag over the pot, without touching the cuttings, and wait a couple of weeks. Penstemons reproduce just as happily from stem or internodal cuttings, so you can quickly make a whole heap of plants from just one.

For a stem cutting, start with two sets of leaves per cutting. Cut just below the bottom set and remove these leaves. Insert the cutting into the potting mix as above and cover with a clear plastic bag. These cuttings often produce the best-quality bushy plants. Plants should be ready to pot on in two to four weeks.

### **Semi-ripe cuttings—carnations and pinks**

Known as pipings, semi-ripe cuttings can be taken from pinks (*Dianthus*) successfully from mid to late summer, even from cut flowers although they may struggle in your conditions if they are not from a local grower. Look for a non-flowering shoot, but use a flowering one if nothing else is available. Hold the shoot near the base and pull out the tip, it will break easily at a node. Remove the lowest pair of leaves so that you have about five leaves to a piping and insert into a container of seed or cutting compost. In two to three weeks you'll notice a new flush of growth, a sure sign that the cuttings have rooted. The ideal temperature for rooting pipings is around 60°F. Pot on into individual containers to plant out the following spring.

### **Heel cuttings—woody plants**

Camellias, *Ceanothus*, and many semi-woody plants reproduce better if they have a little bit of the stem still hanging on. This is known as the heel. Heel cuttings are also used for plants that are difficult to root. The heel is from an area where there is a natural build-up of rooting hormones so it is the part that roots. It also helps to prevent against fungal attack.

Carefully pull away a side shoot of this year's growth. Leaves should be healthy, the tip soft, the stem firm and woody at the base with a good green color. This should be about 4in. long and should come away from the parent shoot with a sliver or 'heel' of bark attached. Trim off the tail of the heel with a sharp knife or pruning shears. Remove the lower leaves so you have about 2in. of clear stem to plant into the potting mix.





# Defending your bounty







Wherever there is soil,  
there'll be weeds.  
Wherever there are plants,  
there will be pests. And  
wherever there are soil  
and plants, sunshine and  
rain, you'll probably find  
diseases. They're all part  
of gardening, but no one  
wants too many weeds,  
pests, or diseases or it  
can all become a little  
overwhelming.

Right: Dock leaves and dandelions—  
weeds are the bane of all gardeners.

Opposite page: Perennial weed soup—  
ferment beastly weeds in water.

page 137: Used coffee grounds deter  
pests such as slugs.





# Weeds and weeding

Weeds are an important part of your garden. Imagine what your compost bin would look like without them. The good news is that weeds show that your soil is alive, and many small creatures make their homes in a weedy patch—you just don't want weeds to take over.

Whatever you do, never let weeds cramp your style. You may never get on top of some, I know that mare's tail will always be a part of my garden, but I've learned to love its best assets. Weeds are broken down into annuals, which are beastly, and perennials, which are beastly and brutish. The perennials are the real problem. They vanish for the winter, allowing you to believe you've got on top of them, only to appear with the first glimpse of spring.

## Why weeds are not welcome

The true definition of a weed is a plant out of place. Most weeds are just wild flowers that have found a niche in your garden soil. Some weeds are plants that you have willingly introduced into your garden. Mint, orache, periwinkle, even hellebores can take over if you don't keep on top of them. The problem with the most common weeds is that they are universally tough. They can continue to grow in conditions where many garden plants give up. This persistence is partly due to robbing the plants around them of moisture, nutrients, and sun, which is why you need to get rid of them.

Many weeds act as vectors for pests and diseases, meaning that they either overwinter in the weeds, or use them as a source of food or material, so the more weeds you have the more chance of other unwanted things. And because you don't get to choose where weeds come up, they tend to make a garden look very messy.

## Using weeds

The best thing you can do with weeds is to use them to benefit the plants that you do want, by composting them. First you need to recognize your annuals from your perennials. Perennials will make it through even the hottest compost as fragments of root, so you can't put them on your heap as soon as you've weeded them from the ground. Instead soak all perennial weeds, such as bindweed, mare's tail, docks, thistles, yellow-rooted nettles, and couch grass, in a bucket with a lid (excluding light makes it decompose quicker). When it's turned into a slimy mass, put this back onto the compost as a nutrient-rich soup. In the winter, it can take several months for the weeds to break down.

If you can't identify a weed, then compost only the green stuff initially and put all the roots and seeds into the large bucket. This is especially important if your compost doesn't get over 75°F. As well as composting them, you can dig annual weeds back into the soil to act as a source of nitrogen. It's best to do this in spring, when warmer soil temperatures mean the weeds will





decompose quickly. This is a good trick for potatoes; just throw the weeds from the surrounding area into the bottom of the potato trench or hole.

Your heart may sink if you take on a garden smothered in all of the worst weeds. Every book will tell you over and over again that the only truly effective way to get rid of these weeds is to dig. This is true, to some extent. If you're starting from scratch, and if there is nothing in the garden worth keeping, then digging from one end to the other will give you a clean slate—and lose you a few pounds. But it can be a vast undertaking. If this is going to be home for a good long while, then spending the time to get it properly cleared in the first place will pay off, but if you're only going to be there for the next eighteen months or so, is it worth spending several months on the weeds? I don't think so.

### **The no-dig weeding method**

If digging is your idea of hell, you can bypass the whole thing if you are prepared to go and find a lot of cardboard and a good hefty supply of bulky mulch. This isn't an instant solution, but it surely beats weedkillers. If you do find yourself tempted to reach for a bottle of herbicide, restrain yourself. That's not an instant solution either, and can kill more than the weeds. You spray herbicide, it looks as though nothing has happened for at least three weeks; then plants start to turn yellow, but this goes on for such a long time that you imagine it might not have worked. You use the weedkiller in late spring, it gets to summer and you want to have a barbecue, but your garden is a very sickly looking yellow. Then suddenly, long after you think anything could possibly happen, all your weeds fall over—and you still have to go and gather them all up. Weedkiller is very effective, but it doesn't

work in a hurry and, whatever anyone says, it is not environmentally friendly.

Instead try the cardboard trick. You need lots of cardboard—bike shops are great as they have huge supplies of really large boxes—and lay it down over the weeds. It's best to cut the tops off the weeds first. Cardboard acts as a weed-suppressing membrane and it also rots. Next cover the cardboard with a thick layer of mulch, at least 6in. This could be your own compost (but you probably won't have that much), leaf mold, cheap purchased compost, grass clippings, animal bedding, straw, mushroom compost, or a mixture of all of them. Use store-bought stuff as the top layer, whatever else you use, so that your beds look uniform and mulched—rotting cardboard is not a good look. Then all you have to do is wait.

Worms in the soil will go mad for this new layer of food and do all the work for you. The mulch plus the cardboard will suppress the light and the weeds below will be smothered to death. The worms continue doing their thing and if you're patient you can plant straight into a weeded bed. Any weeds that do make it through are easy to pull out. No digging—just a new bed to plant into. This method can be used for everything from establishing a vegetable garden to getting rid of a lawn. If you are doing it in autumn, you can place bulbs such as bluebells (*Hyacinthoides*) and daffodils under the cardboard and nature will do the rest, though if you have squirrels you'll probably have to cover the mulch with chicken wire or they'll dig up all your bulbs.

You may not get rid of some truly persistent perennial weeds, or not with the first attempt. Mare's tail or bindweed for example have roots that seem to have limitless reserves to draw on. However, the no-dig method increases worm activity and so makes



the soil light and workable. If you do have to dig later, at least it won't be backbreaking.

### Hitting weeds with mulch

I'm sorry if you have truly persistent weeds, but I mean it when I say don't let them cramp your style—mulch, mulch, and mulch again. Apart from Japanese knotweed (contact your local extension service for help or move out—seriously, it's horrible), nearly all other pernicious weeds can be brought into check with mulching. But the mulching has to be deep and regular. The more you mulch, the more organic matter you are slowly adding to your soil. You'll actually see this happening because one day you see lots of mulch and four months later you won't see any. The worms and their friends will have been slowly working it down into your soil. The more organic matter, the more slugs, worms, and other munching things appear.

Imagine what happens when weeds have 6in. of mulch dropped on their heads. This makes things very dark, but weeds have some reserves to cope with lack of light so they carry on growing, but they start to struggle and soon some of them begin to rot a little. Along come worms, slugs, mites and, with them, bacteria and molds and they all start to work on your weeds. By now these are struggling for light, and struggling against attack, and the minute they get their heads out to the sun, you dump more mulch on top of them. Eventually they will give up the struggle.

Most weeds are colonizers of bare, open ground. They may appear when you disturb the ground and expose the weed seed bank that exists in all soil, but they don't actually like disturbed ground per se. As long as you go into this battle armed, you can win!

**Left: Cardboard mulching. Top thick cardboard with cheap mulch or homemade compost (top). Do this regularly and you'll beat even the most pernicious weeds. I use home-made compost and top it off with cheap bark mulch so it looks neat (bottom).**



## Home-made herbicides and other weed deterrents

Gardeners have made their own weed controls for generations, but homemade herbicides and pesticides aren't to be used lightly since they can be much more toxic than you think. The most effective homemade weedkiller is a mixture of four cups of vinegar to half a cup of salt and a couple of teaspoons of dishwashing liquid. When the salt is fully dissolved, you just spray or wipe it onto broad-leaved weeds such as docks and dandelions. Unfortunately, it's lethal to all other plants around it as well. It works best in sunny conditions. Coca-Cola is surprisingly good for killing off weeds in pavement cracks. It's a bit sticky, but very effective if used on a sunny day.

But you and your hoe are the best weedkillers out there. If you're out hoeing the tops off annual plants first thing in the morning, the weeds will burn off in the sun. Nothing is more effective. Hoe in dry weather so weeds don't get the chance to regenerate.

## Eat your weeds

They used to be part of people's diets, but we now have so much choice we rarely fill our plates with weeds. Eating them into submission is very satisfying. Chickweed is good in salads, not unlike winter purslane, it has a fresh, green taste and can also be used in soups, but you have to pick a whole heap. Bishops weed (*Aegopodium*) was a Roman treat as its pernicious nature meant it was around even in winter. You eat it a bit like spinach, picking only the young leaves and gradually exhausting the plant. Lamb's quarters (*Chenopodium album*) is a big, thirsty annual that looks a bit like dock but tastes good enough in salads or stemmed like spinach. Stinging nettles are packed full of vitamin C and young leaves make a delicious spring

soup. Young dandelion leaves are very good for indigestion—slightly bitter but a good addition to salads and very tasty sautéed.

Japanese knotweed (*Persicaria*) is enough to send most gardeners weeping, but sautéing, steaming, or simmering the young shoots is one sort of revenge. They have a slightly tart taste that is like either asparagus or rhubarb, depending on whom you speak to. Choose young shoots 6 to 8 in. long, and discard any leaves, as these are too tough.



## Perennial beasts

Horseweed	Japanese knotweed—you might want to consider
Bindweed	moving to a different
Couch grass	home. But seriously, you'll
Creeping buttercup	need a two-pronged
Canada creeping thistle	attack. Pull up or cut the
Ground elder, Bishop's weed	extensive root system
Dock	every time you see a shoot
Brambles	appearing; over several
Buddleja	years this will exhaust the
Bracken fern	root system. Every shoot or
Ground ivy	root will need to be dried
	out thoroughly before
	being disposed of. Never
	put any part into the water
	system. You can also spot-
	treat individual plants with
	a glyphosate-based
	herbicide. It will still take
	several years to clear the
	ground.



Left: Eat your weeds. Yes, I ate my weeds—chickweed and dandelion salad. The good things about many weeds is they grow in winter. So one way to look at them is as a source of winter greens.



# Pest and disease control

No sooner have you started to get to grips with weeds than you may start noticing some other things you didn't invite into your garden. Just as where there is bare soil there'll be weeds, where there are plants you like (and some you don't), there will be pests and other things to mar your work.

This may sound tough, but it's not the end of the world. The very words "*pests* and *diseases*" make them sound utterly unwanted and horrible, but they do have reasons to be here. They are all part of this ecosystem called life and important for that reason. Slugs, for instance, are horrible to look at and destroy countless lovely things with what seems like insider knowledge of what matters most to you. But they also play an important part in breaking down organic matter. When the earth produces so much organic matter, why are we not drowning in it? Think about it. The reason the earth's surface isn't getting larger year after year is because there are things like worms, slugs, fruit flies, snails, nematodes, and all sorts of other bugs working hard to turn waste vegetable matter into soil. A lot of plant diseases also break down plant material to put it back into the soil. These things are here for a reason.

Our gardens are manufactured environments where certain things do a little too well. We do our best to make sure we have good soil, plenty of water, and lots of good, rich growth—wouldn't you want to move in? However, I'm not suggesting that we embrace each snail or spider mite with open arms. When you've spent months raising a tomato plant or row of tasty carrots, it's hard not to become completely irrational when something starts attacking it. I think there is a little bit of warfare inside most people and bugs make easy prey. It's fine to go on a killing spree, as long as you do it with the lives of others in mind. This means staying clear of pesticides.

## Why not use pesticides?

The problem is that, on the whole, they are indiscriminate. If you look on the back of a pesticide container, more often than not it will say in small print somewhere that it will harm bees and aquatic life. It's saying that this product will kill your pests, but it will kill the good bugs along with the bad.

Insects are the bottom of the food pyramid, which means there need to be huge numbers of them to attract relatively small numbers of the wildlife you love, such as song birds, birds of prey, or cute small mammals.

## Go organic

If you go organic you have to—begrudgingly at times—get along with living with everything. When you want to get rid of a pest or disease, you'll have to do it pest by pest rather than in one sweeping spray. You can hand pick or squish a lot of unwanted insects, such as caterpillars. It does take time, but it's not an impossible job. Another method is to blast insects with a jet of water, but not so hard as to damage leaves. This will dislodge many undesirables. Clearing away dead or dying leaves that may harbor diseases, planting nectar-rich flowers for pollinators among your vegetables, and generally keeping things clean—paths swept and pots washed—goes a long way toward keeping down pests and diseases.

Organic methods rely on good husbandry, prevention, and healthy soil. As a fully paid-up member of this crew, I can testify hand on heart that healthy soil really does mean fewer problems.

## Visible thugs

Organic gardeners just have to accept the unwanted sidekicks that are slugs and snails. They love soil rich in organic matter. There are lots of different slugs out

there: usually the smaller they are, the more damage they do. My mantra is big and black—put it back (in the compost bin where it will help make compost), but if it's brown—as well as orange, tiger-striped, or yellowish—smash it down.

All snails are after your plants. Snails are more desirable to predators than slugs as they taste better so they do attract some birds and, in fact, if you're feeling brave you can eat the common garden snail. Collect some, put them in a bucket and feed them on carrots until their poo turns orange, then sauté them in garlic and white wine.

Aphids are a major annoyance in most gardens. Greenfly, whitefly, blackfly, mealy, and root aphids are all small insects that suck sap, causing physical damage and transmitting viruses. They also poop constantly because they're always munching in order to get enough protein, so they excrete a sticky substance called 'honeydew' all over the leaves, which in turn grows black sooty mold and attracts other pests. Caterpillars are the larval forms of moths and butterflies and they just love to dine on plants, particularly brassicas. The good thing is that they are very easy to spot.

### Soil pests

White grubs, wireworms, and cutworms are all revolting to look at. White grubs are white, leatherjackets are brown, and cutworms are greenish gray. All look utterly unappealing and eat either plants' roots or their stems at soil level.

### Indoor pests

Aphids, glasshouse whiteflies, spider mites, scale insects, and mealy bugs all love warm conditions. Aphids and whiteflies are pretty easy to spot. Spider mites are tiny, tiny things. Lots of them tend to cause a yellow

mottling on the topside of the leaf; when you look at the underside there is fine webbing and, with careful eyesight, you can see tiny red mites running about.

Scale insects are immobile, usually round and the color of light brown paper. If you take your nail to them, you can flick off the brown papery outside and see a squishy insect inside. Once you've flicked its cover off, it dies. Mealy bugs are covered in a white powdery coating and are closely related to scale insects, except they move very slowly. You can try rubbing alcohol to control them. Dip a cotton swab in the alcohol and rub them off. Otherwise, clean your indoor plants with a rag and soapy water every so often and you'll get rid of a great deal.

### Fungal diseases

Molds and mildews are caused by fungi, with downy and powdery mildew the most common. You can easily tell them apart as powdery mildew appears on both the upper and lower leaf surfaces and the plant looks as if it has been dusted in flour. Powdery mildew likes high humidity and warm temperatures, so you'll find it in spring and autumn. It's best to prune out infected material and don't compost it. Choose resistant varieties and make sure that they are adequately spaced as poor air circulation leads to mildew build-up.

Downy mildew only occurs on the undersides of leaves, the topsides of the leaves will have yellow blotches. It's often bad in wet summers, when the weather is relatively cool and very humid. Again, air circulation is very important in deterring downy mildew. Plants in shady corners tend to get hit so look for disease-resistant plants or varieties. Bee balsam (*Monarda*), peas, lettuces, vines, and roses are all very susceptible to mildews.



Right: Encourage wildlife to eat your pests. Plants such as these sunflowers (*Helianthus annuus*) will attract beneficial insects such as hoverflies and insectivorous birds into your garden on the hunt for pollen and seeds. In return, they'll eat your aphids.



## Good husbandry

Good hygiene is an important strategy in your battle against pests and diseases. Plant debris is a key home for many nasties, and general garden rubbish such as old plant pots are ideal breeding grounds for slugs and snails. Many weeds also act as homes for diseases or places for insects to lay eggs. The more you weed, the less homes you provide.

Good cultural practices are the other weapon. Some cultural practices discourage diseases and pests from hanging around or moving in. When you rotate your vegetables this means the soil pests that prefer specific families of plants are starved of their favorite hosts. For example, never grow onions in the same bed where you've grown leeks the year before.

Give your plants the best chance by growing them in good conditions. Seedlings that start life in poor soil conditions will be stressed and susceptible to attack, so never sow in very cold or wet or very dry soil. Thin them early to avoid overcrowding—fungal diseases are most likely to spread where plants are too close.

## Companion planting

Companion planting means planting specific combinations together for good health. The idea is that a monoculture is asking for trouble, but interplanting with certain flowers and vegetables can deter and confuse pests. French marigolds (*Tagetes patula*) between tomatoes and peppers prevent whitefly attacks because marigold roots release a substance disliked by whiteflies. Plant nasturtiums next to cabbages and you may divert many caterpillars onto these as they are very partial to nasturtiums. If you plant clover (*Trifolium* ssp.) as a cover crop under brassicas, pests that want to lay their eggs in the soil

will have a hard time finding it because of the dense clover. The onion family is known to repel aphids, whiteflies, and carrot flies, and for this reason onions, garlic, and chives are often planted next to carrots, tomatoes, peppers, and brassicas.

At the very least, it's a good idea to have lots of nectar-rich flowers growing beside your vegetables. Poached-egg plants (*Limnathes*), marigolds, sunflowers, fennel, and thyme act as nectar and pollen sources for beneficial insects. Birds, hoverflies, ladybirds, spiders, ground beetles, soldier beetles (dark, red-headed beetles that eat a wide variety of pest insects and eggs), and lacewings are all hungry for pests, especially for aphids. Work on the principle that if it's moving fairly fast, then it hunts prey and is good; the plant-eaters that you don't want tend to be slow movers. Frogs, toads, and ducks make light work of slugs and snails. Many wasps are parasitic on pests and should be encouraged, not swatted.

A few chemicals are allowed under organic principles. These chemicals tend to be nontoxic to the soil, break down quickly and do not kill everything else in their wake. All organic chemicals work as contact poisons, which mean they don't hang around, but it also means they have to be used more often. Horticultural soaps containing fatty acids are used to kill aphids and other sap-sucking insects. Sulphur dust is used to treat powdery mildews. Always stick to the manufacturers' instructions and always dispose of chemical bottles responsibly. Spray in the evening when beneficial insects tend not to be around, and don't get anywhere near water sources.

I'm really only happy to use insecticidal soap sprays in my garden. This is a soft soap spray based on fatty acids. It blocks the spiracles—the breathing holes—on





insects and is effective against aphids, whiteflies, and spider mite. But it will also harm beneficial insects, so you need to be selective. By using a hand spray, you can be pretty accurate with what you drown. A weak solution of biodegradable dishwashing liquid, no more than a couple of squirts into a spray bottle, works just the same as horticultural soap. Never spray in full sun, or the liquid can scorch your plants.

Pyrethrum is another pesticide you often see advertised as appropriate for organic gardeners. It is made from a plant extract from a type of chrysanthemum and is particularly effective against aphids, whiteflies, and spider mite. It is also non-selective, so will harm beneficial insects. Many organic gardeners, including me, don't use it for ethical reasons because its production in the developing world hasn't had a great track record.

Slug pellets developed for organic gardeners are based on ferric phosphate. As a last resort, if you are overrun with slugs and snails, they can be very effective.

Left and opposite page: **Mixing your flowers and your vegetables really does work. Marigolds (left) will attract masses of predatory insects, such as wasps and hoverflies. Nasturtiums (opposite) will encourage pollinators and also lure cabbage white butterflies away from your brassicas.**







Right: These plants have been ravaged by slugs, but the copper ring, which I found in a Dumpster, should deter any newcomers, giving them a fighting chance to come back. Opposite page: Sawdust is a very effective slug deterrent in dry weather.



## *pest controls*

Slugs hate copper. When their slime touches copper, it gives them an electric shock. Keep a look out in Dumpsters for any pieces of copper pipe and bend it into rings to place around precious plants.

Slugs hate coffee. Their skin gets irritated by all the caffeine so they start to produce lots of slime; this dehydrates them and eventually kills them. Spent coffee from your local coffee shop does the trick. Spread it wide and thin for the best effect, and it's a good plan to spread it over seed rows before seedlings emerge.

Slugs hate sawdust. It dehydrates them, so they move off it. They hate soot from a woodstove for the same reason, and crushed eggshells.

Slugs hate salt. If you're really annoyed by them, pour it on and watch them fizz.

Slugs love beer. Cut a plastic bottle in half and sink the bottom half into the ground. Pour in stale beer from your local bar and cover with a plant pot to

stop beneficial beetles and other creatures from falling in. Slugs clamber in, get drunk, and drown. It's very effective, but you need lots of traps. Fruit juice can be substituted for beer, but they would rather drink beer.

Carrot flies can be a real pest, but barriers will help as the insects don't fly above 2ft. Thinning young carrots early also helps.

A milky solution sprayed onto plants will discourage mildews by making the leaf surfaces more alkaline, which mildews can't tolerate.

Spider mite can be easily discouraged with water. The mites thrive in dry conditions, so regularly spray infected material with water, making sure to saturate the undersides of the leaves.

If your houseplants are covered in little bugs, give them a good shower to wash off an awful lot of pests, and be sure to wash the top of the pot and under the rim.





# The harvest







## Autumn preparation

You plant and grow, sow and dig, you weed and clear, you stake, support, marvel, and pick. Some days are amazing, some may be heart-breaking ... and then just like that it comes to a rapid end. Summer ends, perhaps lingering a little, but suddenly it's time to move rapidly. Your work doesn't stop when your main growing season is over. What you pick, bottle, and store now will give you comfort and pride over the coming months, and tidying up in autumn means you don't have to go out when the weather's really foul—unless you want to.

Cherish good days in autumn. It often starts bright and sunny, but as winter draws on it's sure to get cold and cheerless. Once you've harvested all you can, it's time to put your garden to bed. Remove leaves from lawns and beds and put them in a sack or a chicken-wire frame to turn into leaf mold. Cut back dead foliage and most stems on herbaceous perennials, but leave attractive seedheads and a few spent stems standing for insects to sleep in through the winter. Clean bird baths and bring in any houseplants that spent summer outside. If your worm bin lives outside or in a shed, wrap it up to keep the worms warm and active.

Cover outdoor containers filled with winter salads and greens with horticultural fleece or bubble wrap. Olives, bays, tender palms, dahlia tubers, cannas, gingers (*Hedychium*), and bananas will all need to be protected for the winter in all but the mildest climate. Bring bananas, bays, and other tender perennials indoors for winter. A cool (50–60°F) sunny room makes a good spot for overwintering. Dig dahlia tubers and store them in barely moist vermiculite in a cool, frost-free spot. In mild climates, from Zones 7 or 8 south, mulch tender bulbs and tubers once the foliage has died back with a good 6in. of mulch. I then cover them with old compost bags, which I pin down to stop the worst of the rain.

Autumn is a good time to move any plants that are in the wrong place as the soil is workable and most things are going into dormancy, but you can still see where they are. Autumn is also the time to plant spring-flowering bulbs; as you clear spent foliage and cut back your perennials, make use of the bare soil you uncover to pop in as many hardy bulbs as you can.







**Left:** Cleaning up in autumn gives you a chance to take stock of things, move plants, and collect seeds. Don't be too tidy, attractive seedheads, such as those of grasses, provide interest over winter.







# Saving your own seed

An obvious reason to save seed is to save money—why buy new seed when you can harvest your own? But actually there is a lot more to it than thrift. In the last 40 years or so, gardeners have gone from being prolific seed savers to enthusiastic purchasers of commercial seeds. Most seeds on sale are hybrids, where every seed is the same, year after year, rather than traditional open-pollinated varieties (see Growing Heirloom Varieties on page 92). There is nothing wrong with buying seed, you have to start somewhere, but it is genuinely important to save your own.

When you save open-pollinated seed from your own garden, you are maintaining slightly different strains of vegetables and flowers. These strains represent a living gene bank that is adapted to local conditions. Every seed is a little bit different and widely adapted and adaptable to different conditions. For instance, if you grow from seed from an heirloom tomato (check it's open-pollinated) you bought from a market and then save your seed, that tomato is already showing signs of adaptation to your conditions.

Commercial hybrid seed is identical in every packet, every year. This means that growers have to adapt their growing conditions to the seed, not the other way around. We have unwittingly created a standardized growing system, which relies on standard conditions and fertilizers. Yet our climate has never been, and never will be, constant. We need a gene bank that will have enough variation to adapt to our future needs. Seed saving is fun, cheap, and a powerful political gesture.

Collecting seed is easy. You just need a little botany, some paper bags, a pencil, and the willingness to give up part of your fridge to next year's bounty.

Seed forms as a result of pollination and successful fertilization of a flower. Pollination can occur through wind, insects, or animals. Once it happens, an embryo begins to form. This contains cells that will develop into the first root, stem, and eventually leaves. All of this is bundled together and wrapped up in a seed coat. The seed coat is there to protect the contents of the seed, not only from physical harm but also environmental. It's the seed coat that prevents the seed from germinating in the wrong conditions.

On top of the seed coat, some seeds are also protected by fleshy tissue, such as fruits and hips. This tissue is usually there to entice an animal to take the seed elsewhere, so it has the chance to colonize new territory. Some seed is contained within capsules that delay seed dispersal until the seed is ripe.

Opposite page: The best time to harvest seed is when they are ripe on the plant. This tends to be autumn for most summer-flowering plants. Clockwise from top left: Seedheads and pods of California poppies, chilies, marigolds, sunflowers (seedhead and flowers), love-in-a-mist, and Hollyhock seeds.



Think of the way a poppy seedhead doesn't open its apertures until the seed is ready to go. Catching your seed to save at the right moment of ripeness is essential, if it is too immature it won't have set itself up for life. A general indicator is that the seed has darkened and hardened.

Most plants in your garden set seed at the end of the growing season, usually in autumn. This makes sense in terms of growing, but also poses a dilemma. This is the time of year when temperatures are lowering, persistent rain, frost, and snow are all to come. Clearly, this is not a wise time to germinate, hence the seed coat. The harder and tougher the seed coat, the more the plant is attempting to protect the



seed from germinating at the wrong time, and the longer the seed will last. Tough seed coats are often impervious to water and need to soak in water before germination occurs. Think of a bean or pea—once the seed coat has softened with spring rain the seed can spring into action. The architecture of the seed needs time to develop.

### How to collect and store seed

Some seeds, such as cowslips (*Primula veris*), need to be sown ripe for good germination, but most seed needs to be dried thoroughly. Wet seed rots, goes moldy, and quickly becomes nonviable.

If you time seed collecting right, nature will have dried your seed for you. But timing is everything: dry seed is quick to fall to the ground or drift off on the wind, so you have to catch it just right. In some instances, particularly with perennials, it's better to take the whole seedhead off and dry the seed inside so that you don't lose any by missing the right moment. In a wet year you'll need to take whole heads inside; for example, chop all your sunflowers down and take them indoors before they are fully ripe, otherwise the heads will just rot. Hang these upside down in a warm, dry spot over a bucket and they will slowly dry out over a number of days to release the seed.

Ideally, you should collect all seed in paper bags as these will allow your seed to continue to dry. If you're collecting seed when you're out walking, just fold up paper to collect and allow the seeds to breathe.

Left: Sweet pea seeds—you can tell when they are ready for picking as the pod splits open. Opposite page: Brambles—botanical rambles and their finds. Seed from foraging in other people's gardens.



### **Cleaning and storing seed**

Seeds may need cleaning before you can store them. From pinecones to pumpkins, nature has developed different fruiting bodies to protect unfertilized seeds and aid dispersal of ripe ones. Some seeds require little cleaning other than teasing off chaff. Others are a little more involved.

All clean, dried seed should be stored in containers, either sealed and labeled paper packets; or old film canisters, small Tupperware, or used plastic tubs with lids all work fine. If you've stored everything in envelopes or paper wraps, you should then put them into a plastic box with a lid, as airtight conditions are important. Store in the fridge at a temperature of

32–40°F. If you don't have space in your fridge, store your seed somewhere consistently dry and cool—warm, humid conditions kill seed pretty quickly.

### **Wet seed**

To clean seed from fleshy fruit, such as melons or pumpkins, scoop as much seed from the flesh as possible into a sieve. Using the back of a spoon, rub the seed into the sieve under running water until the flesh starts to come off. Once you've removed as much as possible, spread the seeds out on paper towels and let them dry before storing them.

To get seed from most berries, simply put them into a fine sieve and squash them under running water until





Above and right: Cleaning up tomato seeds. Remove the bulk of the pulp under running water (right) and then put the seeds into a glass of water (above). The good seed sinks and the bad seed floats.



they are well mashed. Then put the fruit pulp into a jar of water and let it settle. The viable seed will sink and the flesh will float. Carefully pour out the liquid so the seed stays in the jar. Dry the seed on paper towels and store it.

Tomato seeds are surrounded by gelatinous gloop that is there to inhibit the seed from germinating in the tomato. This needs to be removed. You can ferment the seeds to clean them, but this method stinks and takes several days. I prefer a method that isn't organically approved, but far quicker. Cut your tomato in half and scoop out the seeds. Wash off the bulk of the jelly in a sieve. Put the seeds in a glass of water (roughly 8oz.) and squirt in some dishwashing liquid. Leave this overnight. Viable tomato seeds will sink to the bottom, but immature seeds will float. Scoop out any immature seeds and then strain the good seeds through a fine sieve. Leave the seeds to dry on coffee filter paper or a china plate—don't use paper towels, as you'll never get the little seeds unstuck. When dry store tomato seeds in an airtight container in the fridge or a cool place.

### **Damp seed**

As usual, to every rule there's an exception, and some seeds should not be allowed to dry out. Generally, large oily seeds such as acorns, walnuts, and magnolia seeds need to be stored damp. If they dry out, they lose their ability to take up water again. Store this seed in vermiculite in a sealed plastic bag in the fridge.

### **Dry seed**

If possible, collect dry seed from seed capsules on a dry day. Some seed is easy. For columbines, love-in-a-mist, poppies, and foxgloves, just tip, shake, or split the

capsule onto a piece of paper and collect the seed. Smaller, finer seed that is harder to extract can be rubbed through a fine sieve over a piece of paper. A lot of the finer seed from the daisy family *Asteraceae*, thistle-forming seedheads, and lettuce seed can be cleaned this way. If you gently break up the seedhead, the seeds will fall through the sieve, leaving the chaff behind.

### **A note on cross-pollination**

Maybe your lovely garden has lots of pumpkins and they are all different varieties happily growing together. If you decide to collect seed, some cross-pollination (or hybridization) is bound to have occurred. Pollination occurs when the male pollen from one flower is taken to the female stigma of a different one. The bees, animals, or wind that pollinate your plants don't care what variety it is. And the plants care even less about keeping their names pure, they're just on a mission for the next generation. Left alone, pink hellebores don't always produce pink hellebores, yellow squash may not produce yellow summer squash. Nature isn't interested in keeping specific strains true, just humans are. In some plants it can take a lot of work; you have to hand-pollinate flowers and then protect each one from visits by any other would-be pollinators by covering its head with a bag.

There's no reason why you shouldn't collect cross-pollinated seed. DIY hybridizing has been going on for years and is an established method for finding new varieties. Just remember that if you want to get exactly the same plant again, you'll have to isolate its flowers from the attentions of unwanted visitors.



# Dealing with gluts

Usually your harvest each year determines what you'll plant next year. Too much or too little is to a degree determined by a year's weather conditions, but it also highlights whether you sowed the right amount to start with. Remember that successional sowing—when you sow a little roughly every two weeks—of fast-growing crops is a good way of making sure you have a continuous and manageable supply.

Some gluts are lovely, it's hard to imagine you could ever have too many tomatoes, but others are testing. The first French beans are delicious, and the second lot, and the third, and suddenly you can't pick them quick enough and they get stringy. My best tip is to go searching for some 1970s vegetable books. The height of the self-sufficiency movement meant dozens of books on how to bottle, freeze, and curry your way out of a glut.

## Preserving herbs

Fresh herbs are wonderful, but you can't keep tender herbs such as basil growing through the winter, so at some point you'll have to harvest, dry, and bottle.

A small bunch of herbs added to a bottle of oil or vinegar will give it a delicate fragrance and you'll capture summer all year-round. I tend to pick basil and rosemary toward the end of the summer, early in the morning when they are at their freshest. For strong herbs such as rosemary, add a pinch of salt or some peppercorns with the herbs, and leave the oil or vinegar for several weeks to absorb the flavor.

Deep-freezing herbs is the least hassle of all and preserves their natural flavors well. Collect and clean bunches of herbs with their stems on. Dip them into boiling water first if you want to keep their color, pat them dry and spread them loosely in freezer bags. You don't even have to chop them up as they'll be brittle when you take them out, so you can just rub them

into your dish. Basil nearly always goes black in the freezer, it doesn't change the taste, but just doesn't look so pretty. If color is important to your dish, whizz the basil up in a blender, add a good amount of oil to make a paste, and freeze. It's a pared-down pesto that tastes great—store in ice-cube trays for convenience.

## Drying herbs

Air drying literally means hanging the herbs upside down in a warm, dry, dark room. Depending on the thickness of the stems and leaves you are drying, this can take anywhere from a couple of days to a couple of weeks. The herbs are dry when they feel like paper to the touch and crumble gently under pressure. All dried herbs should be stored in airtight containers and out of direct light.

## Oven drying

You can oven dry your herbs on racks as long as you dry them very slowly over several hours—with a gas oven, just the pilot light should do the trick.

## Harvesting flowers for drying

Drying flowers is a lovely thing to do. I'm not a huge fan of potpourri, it's a little too old-fashioned, but a big bunch of dried roses or hydrangeas in the corner of a room can look lovely. Also lots of seedheads, such as coneflowers, love-in-a-mist, and giant cardoons, all look great in vases or tied upside down for a rustic look. There are a few basic rules. Heat and moisture determines a lot when you're drying flowers. If you want them to keep their color, just hang them upside down somewhere with a constant temperature, preferably not too humid and out of direct sunlight. You need space to do this on a large scale, so for starters, try something easy like lavender or roses.



Left: Dried herbs.  
This is one of my  
favorite mixes.  
Dry bay, thyme,  
rosemary, sage,  
chilies, and garlic  
cloves very slowly  
and then crumble  
everything together  
to create a  
Mediterranean  
seasoning.





# Herbal teas

If you're short of space and time for gardening, I think you can't do better than grow herbs to harvest for tea. Going out into your garden on a sunny morning and picking your morning brew is a heavenly experience. And storing enough to get you through the winter is very satisfying. Many of our favorite herb teas, including mint, camomile, and lemon verbena, are not only happy in containers, but pretty too.

## Making herbal teas

You will need one tablespoon of dried or two of fresh herbs per person, though clearly taste will vary and you can get away with far less of strong herbs like rosemary or lemon verbena. Pour the hot water onto the herbs and steep for at least five minutes. Most herbs drop to the bottom of the cup as they absorb water, but very dry herbs tend to float, so straining in some cases is necessary. If you like sweet tea, then sweeten with honey rather than sugar as that somehow tastes wrong with subtle herbs.

Camomile is always best used dry rather than fresh for tea. I find two or three plants is sufficient supply for two people drinking the occasional cup. For those with an addiction, you need to grow about ten plants. Cut camomile in late summer when the plant is in full flower, cutting the stems at ground level, and dry the plant upside down somewhere cool, dark, and dry. This takes one to two weeks. Remove only the flower heads for tea, and store them in a cool cupboard in an airtight container.

Feverfew tea is ideal for headaches. It works wonders but tastes bitter—a little honey makes for a much more pleasing tea. Lemon balm soothes sore stomachs. Tea made from the leaves has a pleasant lemony taste and you can drink it in great quantities, which is just as well because it's a rampant plant so it's

best grown in pots where it'll stand any amount of abuse. If you cut stems back in June, you'll have tender leaves for the rest of the summer.

Lemon verbena is one of my favorites. It's a delicate, beautiful shrub with lovely white flowers, and lemon verbena tea is like lemon drops, honey and tart all at once. Perfect in a container, it is semi-evergreen and can be pruned back hard in spring for a new flush of leaves. Bring it inside in the winter as it is tender and hates very wet or cold conditions.

There are dozens of different mints. Black-stemmed *Mentha piperita* is a good one for tea. *Mentha longifolia* subsp. *schimperi* is a Moroccan mint with a strong peppermint flavor and it is worth investing in to make the traditional Moroccan tea, very concentrated and boiled up with lots of sugar. Unlike others, this variety needs full sun so it is a good choice for a pot on a hot patio. Other mints aren't generally much good in tea and eau-de-cologne mint (*Mentha x piperita* f. *citrata*) is positively unpleasant but lovely in baths or dried and stuffed into pillows.

Some garden teas are more than pleasing, they're home-grown medicine. If you can get over the taste of stuffing, rosemary, hyssop, and sage are really good for sore throats. The minute you feel your throat catching, nip out into the garden, pick fresh herbs, and steep them for a short while. Rosemary and sage are both strong tastes, so you can add lemon to make them more palatable. Another variation is to boil honey, lemon, garlic, rosemary, hyssop, and sage and then let the mixture steep as long as possible.

Opposite page: Herbs for tea, clockwise from top left. Calming camomile; cool mint sun tea; rosehips, for vitamin C, together with feverfew, for sore heads, growing at the base; hot apple mint tea.









## Tools of the trade

You need certain things to make your own world. Tools and materials are essential, but finding the right community to bounce ideas off is as much part of thrifty gardening as finding a great watering can in a Dumpster. Once you start gardening, you're sure to find like-minded people, and you don't need to spend a fortune. There are great finds to be had second hand, in Dumpsters, and online.



Every thrifty gardener needs tools for craft and building projects, but what you need first and foremost are your gardening tools. Don't get lured into buying silly tools. 'Makes digging really easy,' 'The no-bend method.' Anything that claims to pull out specific weeds, along with tools that look more like torture instruments, are all generally useless and will just sit around instead of being used. Do spend money on a few good tools, the best you can afford. Or get the best you can find in second-hand shops—make sure that metal parts are in good shape, but you can get wooden handles replaced by a good hardware store if need be.

For gardening in the ground, your most important tool is a good spade, preferably with a wooden handle and a stainless-steel head. The handle should come up to your hip. Digging is hard work and a wooden handle shouldn't jar your bones while many man-made ones can't help it. Look for hickory or oak. A good fork is also a good investment; wooden-handled is best, but you can get away with fiberglass as forkwork tends to be much less jarring than digging. A hoe, on the other hand, can be as cheap as anything—just make sure the handle is well secured to the blade.

**Left:** A few of my favorite things—Mrs. Frankfort's tools. I inherited this lot from Mrs. Frankfort, a lovely old lady I used to garden for. The narrow rake is a landscaping one, the broad one's a leaf rake. **Opposite page:** These letters came from a Dumpster outside my local pub.

A pair of pruning shears is vital. Pruning shears have a habit of hiding or disappearing, so buy the cheapest, strongest-looking pair you see. You also need a good, strong pair of scissors. If you lose pruning shears, you'll probably lose hand forks and trowels, so get cheap ones. It may seem strange, but you'll find you need several different rakes. Start off with at least one size of hard landscaping rake, used for breaking up soil and creating seedbeds, and one broad leaf rake. Spend money here to make sure the rake and handle actually stay together, cheap ones can fall apart far too easily.

If you've got space you'll need a wheelbarrow. The cheapest ones are builder's wheelbarrows. You often see them in Dumpsters at the end of a job covered in plaster—not pretty, but still functional. Horticultural types have higher sides, so are more useful—that's the sort of thing I'd put on my Christmas wish list rather than buying myself. Tub trugs are a great invention—large, wide plastic buckets with two handles.

A watering can is essential. I like very old-fashioned metal ones, but a cheap dollar-store version will work just as well. A good watering rose is essential and these can be flimsy on cheap versions, so shop around.

Container gardeners need a hand trowel and hand fork, and a hand rake is surprisingly useful for making a seedbed. Pruning shears are a good investment, but a sturdy strong pair of scissors can do the job too.

### **Cheap or free extras**

You need something to make holes in the soil or compost for planting seedlings and small bulbs. You can buy custom-made dibbles, but it's fine to use pencils, chopsticks, or spoon handles. White plastic plant labels can be cleaned and reused very easily and if you're careful, one pack can last a long time. Use steel wool to clean off any writing. It's always best to write in

pencil rather than felt pen, as graphite doesn't degrade. Use clear nail varnish to stop the writing fading.

Yogurt containers, coffee cups, and plastic tubs can all be used as growing containers for seeds and cuttings—poke drainage holes in the bottom. It's easiest to sow seeds in straight lines in most vegetable beds: make a garden line to mark out seed drills from short sections of bamboo canes or bits of wood and string. Large plastic bottles can be quickly made into cloches to keep the frost off vulnerable seedlings. Just chop the bottom off and stick the top over a seedling.

### **Old ways**

This is the nerdiest thing I've ever told anyone, but kneeling pads are really useful, so make yourself a fantastic DIY one by taking an old hot-water bottle, fill it three quarters with sand, and kneel on it.

If your hands have the kind of permadirt that looks as if it may never come off, mix up a gritty paste of sugar and dishwashing liquid. Rub this vigorously into your hands and wash it off. Then dry your hands and rub them together with a second mixture of sugar and olive oil for as long as you can be bothered. The sugar will slough off dead skin and the olive oil nourishes it.





# Essential tool kit

It took me a long time to realize that tools other than the gardening sort can be really fun to use. The reason was that it took me that long to meet a friendly instructor. In my experience, this is not your partner, particularly if they complain about your driving skills. So find someone you are never going to go to bed with and ask them to show you how to use tools.

Power tools are great because they really do save time and energy. Electric drills are not expensive, but it's worth spending time researching brands. In my opinion, only the high-end cordless drills are worthwhile and they're not cheap, so better to buy a mid-price corded drill and a long extension cord as your money will go further. Corded drills tend to be more powerful and go faster than cordless models.

Sanders are also worth investing in. A basic hand-held multi-sander, with an interchangeable base for different jobs, is the best buy. It will tackle any DIY job from removing paint on a rounded chair leg to smoothing a table top.

## Electric drills

There is one simple but essential rule to using an electric drill, and that is that you must drill straight or else you snap the drill bit in half. The only other common problems have to do with the speed at which you are drilling. Most are variable speed: the harder you pull the trigger, the faster the drill. Keep the drill at a slower speed using it as a screwdriver. Faster is best when driving in screws.

You use different bits depending on what material you're drilling into. Bits are measured in inches and you should aim to use a bit that is slightly smaller than your screw. If you use the same size or slightly larger, the screw has nothing to bite into. Wood bits have a sharp point at the end that allows the drill to

bite into the wood. Mortar bits look like miniature hammerhead sharks and should never be used on wood. HSS bits (stands for high speed steel) can be used on plastic, wood, and metal. They are usually brass-colored with flat heads and drill slower than a wood bit, but are stronger and less likely to snap.

## Sanders

These are fantastic for tidying mistakes. If you get a lot of wood out of a Dumpster, you'll need to remove glue, plaster, and paint and one of the quickest ways is with a sander. Once a piece of sandpaper is worn out, replace it. Always start with the roughest sandpaper (60), then medium (80), and finally fine (120).

Probably the most useful is a multi-sander that will do a variety of jobs.

Whatever any sander says about having a system for catching the dust, it's rubbish. Basically they blow dust all over the place, so it's best to do projects outside if possible. Slugs hate trying to crawl over woodshavings so save these to scatter round precious plants, or at the very least put them in the compost.

## Hand tools

Having a good saw and knowing how to use it is incredibly useful. There's more to a saw handle than meets the eyes; the long bit that attaches to the blade can be used to measure a right angle; the slanting bit to measure a 45 degree cut needed to make a miter joint such as the corner of a picture frame. If you want to draw a straight line you place the handle on the horizontal part of your wood and slot it into place. This gives you a perfect right angle.

In order to cut a straight line, you must draw a cutting line, otherwise you will never get it straight. Draw the cutting line on both the vertical and

horizontal surface of the wood, then saw to the outside of the line. If you don't have a workbench you'll need to clamp the wood to something with a C-clamp. If you don't have a clamp, rest the wood on a chair and place your knee on the wood to keep it in place.

Make sure you're holding the piece of wood at the opposite end to the clamp or else the wood will fall onto your feet and you'll end up with the saw on your knee—I've done this enough times to know it's both painful and a little humiliating.

Every tool kit needs a measuring tape or none of your cuts will ever match—cheap is fine. It's a good idea to have several different-sized screwdrivers, both Phillips and flat-headed types. I always pick mine up at garage sales for pennies. A good hammer with a solid handle is essential around the house and garden. I like wooden handles as they are easier on the wrist.

Several C-clamps means needing one less pair of hands when cutting, but they're probably even more important for gluing things together. A multi-tool, such as a Leatherman, is a good all rounder, invaluable for dismantling things from Dumpsters. A gimlet set is another good buy—with a gimlet you can have a screw hole started in less time than it takes to get the electric drill out. The other great tool is a crow bar—good for getting pallets apart and for levering up floor boards.

### **Screws and nails**

Nails can be used for permanent fixings, but screws tend to be more useful. If you ever want to disassemble your work, you must use screws.



Above: How I make my world. Rip saw, several hammers, folding ruler, drill, nails, C-clamp, various screwdrivers, and the short wooden-handled thing's a bradawl, or awl, for making holes.



# Sourcing the best: costing the least

## Free materials

The street is a truly amazing resource for material. Salvaging is a fantastic way of finding useful and interesting bits and pieces. I've found tools, soil, plants, arbors, watering cans, wheelbarrows, and containers—not to mention floorboards, skirting boards, landscape timbers, and all sorts of wood to make things for my garden. It's about seeing beyond the current state of the object and imagining something new. People throw out the most amazing stuff and it's a shame to let anything useful go to the landfill mountain.

## Dumpster diving

By using stuff from the streets you not only lessen your own global footprint, but also that of those around you. It's a very thrifty way to get a lovely garden. But there are a few essential rules for getting stuff for free. Dumpster diving sits in a murky world of legal issues. It's a fact that people are throwing stuff out and therefore they don't want it, but they still have legal rights to it.

Always ask permission before you raid a Dumpster, for two reasons: it's polite and it keeps you on the right side of the law. Many people are a little afraid of Dumpster divers. In their eyes you're doing something very subversive. Mostly they are worried that you are adding stuff to someone else's Dumpster rather than taking it out. If you politely explain what you want and why, it will put people's minds at rest. And once people know what you're up to they may even save you stuff.

If you can't find anyone to ask permission from, leave a note. I've found it works wonders just to leave a note asking 'Is this wood being thrown out and can I have it? Check Yes or No.' Some people swear by

diving only at night or early morning, mainly because they are less likely to run into anyone, but I reckon this looks suspicious. I dive at any time of day, I always leave the Dumpster tidier than when I left it and I've yet to get into trouble.

## Buying online

If you can't find your material from the street, eBay can be a fantastic source. You'll often find amazing stuff if you search very locally (10 mile radius) as the lists will be full of finds that people can't mail. The Internet also lists sites with the best deals for bulk buying of screws, nails, and other tools needed to transform your scrap. They'll be on your doorstep before you know it.

## Freecycle and Craigslist

Freecycle has been so useful that I wonder how we survived without it. You join your local online group and post things you want to get rid of. It's a first-come, first-served basis, offering such weird and wonderful things as train tickets, ceiling roses, and paper. It is, of course, hit and miss, but you can find sheds, greenhouses, soil, turf, and all sorts of plants that people have propagated. So if you find yourself with too many tomato seedlings or more beans than you know what to do with—offer them away. Join your local Freecycle group by logging on to [www.freecycle.com](http://www.freecycle.com).

Craigslist is a noncommercial (so no silly banners) network for online communities. Like Freecycle, you search by your area; it's better for cities than rural areas. It features barter, sales, and wanted ads, as well as gigs, services, and other community things, and has some good, topical discussion forums.



## *Dumpster-diving etiquette*

Ask before you dive.

If you are confronted, walk away.

Never trespass—there will be another Dumpster somewhere else.

Dumpsters on people's driveways are definitely out of bounds, unless you can see if they are in and ask them.

Always wear gloves, sturdy shoes, and long trousers for diving (unlike me, but it was a very hot day). Dumpsters are full of broken glass and rusty nails.

Keep a screwdriver or multi-tool in your backpack or handbag. Brass hinges, bolts, and screws are really worth taking.

Keep looking. It's rare to find what you want immediately—it's an endlessly addictive hobby.

Keep karma on your side. Do not take for the sake of it, there might be someone else desperate for that find that's just going to sit in your garage.

Leave the Dumpster tidy—if you take anything out that you don't want, put it back.

Let people know you're on the look out for wood, planters, window frames, and the like. Word of mouth and tip-offs lead to the best finds.



### **Free seeds**

If you really get into sowing, seed-swapping events are the best way forward. They're where you can get hold of lots of free seeds. You just take your surplus seeds along and swap them for other ones you want. If you don't have anything to swap yet, most seed exchangers are very accommodating to new gardeners. Watch noticeboards in your area for spring events, or your local organization may advertise online. If you Google 'seed swapping,' you'll discover a whole online community of year-round seed swappers. Plant societies, horticultural organizations (including the American Horticultural Society), and botanical gardens also have seed exchanges. Also look on Yahoo Groups under seed exchange.

### **Garage sales**

Garage sales are an excellent source of materials. For interesting, cheap plants, start hunting at garage sales from the end of spring and at the beginning of summer. This is when happy-go-lucky propagators have found they've got far too many plants and will start selling them off. I've found some really unusual stuff, even rare orchids.

They are also great places to find good tools. The last remnants of house and shed clearances from old relatives often end up at garage sales, and old spades and forks are often better than new. They tend to be made out of proper tempered steel and were built to last. You often find old spades and forks with dodgy handles; this isn't a problem as a good hardware store will fit you a new one. Keep an eye out for hoes—the more worn the hoe is the better it works.

### **Support your local, independent hardware store**

If you're lucky, you will still have a local, independent hardware store nearby, one of the best resources there is. These are people who have built up their business to support people like you and have a wealth of DIY expertise. Unlike the giant stores that only want to sell you packets of things, you can go and buy that single screw you need. My local hardware store is a fantastic source of inspiration and never bat an eyelid when I ask for any advice, from the right size of drill bit or screw for a particular project to ways to preserve a piece of wood that's been sitting around in water for goodness knows how long.

# Favorite online resources

## Seed companies

*Heirloom Seeds* [www.heirloomseeds.com](http://www.heirloomseeds.com)

This company offers a wide range of heirloom vegetable, herb, and flower seeds, all open-pollinated and nothing that is genetically engineered. They also carry books, basic supplies, and a range of organic products for pest control.

*Baker Creek Heirloom Seeds* [www.rareseeds.com](http://www.rareseeds.com)

Another “must” for anyone interested in heirloom seeds, Baker Creek offers an incredible variety of vegetable seeds collected from sixty-six countries. You’ll also find links to related sites on the history of heirloom seed companies, access to forums on heirlooms, plus a magazine, *The Heirloom Gardener*.

*Johnny’s Selected Seeds* [www.johnnyseeds.com](http://www.johnnyseeds.com)

Supplier of vegetable, herb, and flower seed, Johnny’s offers heirlooms along with hybrid seed. They carry seed of green manure crops and a good selection of books and supplies. Seed is sold in several size packages. You can buy a small amount to test or a large package, with enough to sow a full crop and share with friends.

*Thompson and Morgan* [www.tmseeds.com/index.html](http://www.tmseeds.com/index.html)

Worldwide, British-based seed company, a bit old school, but with a growing organic side. Difficult site to navigate, but tips and guides section is full of useful stuff about germination, planting times, and harvesting.

*Chilterns Seeds* [www.edirectory.co.uk/chilternseeds](http://www.edirectory.co.uk/chilternseeds)

Heirloom, rare, and unusual seeds. Very old school, best bedside-reading catalog and bargain prices for last year’s stock. Seed can be pricey though, with only small quantities in packets.

## Garden Resources

*Organic Gardening* [www.organicgardening.com](http://www.organicgardening.com)

*Organic Gardening* magazine is a useful place to learn about the basics, plus it offers forums where you will find tips on growing vegetables, recipes, opportunities to swap seeds, and ideas for garden projects and crafts.

*Garden Web* [www.gardenweb.com](http://www.gardenweb.com)

This mega online community offers forums on every gardening topic you can think of, from Accessible Gardening to Xeriscaping. There are specific forums on individual vegetable crops, plus ones on “The Kitchen Garden,” “Growing from Seed,” “Garden Junk,” and more. While you can read all the forum posts, to get the full range of benefits—and to post your own questions—you need to join. Other Garden Web features include directories of plant societies and garden retailers. You can also connect with gardeners in your own region/country through their “Zone Buddies” as well as through regional forums.

*BBC Gardening* [www.bbc.co.uk/gardening](http://www.bbc.co.uk/gardening)

Friendly British site with gardening advice and “how-to” videos. It is also the home of my blog.

*Instructables* [www.instructables.com](http://www.instructables.com)

Billed as the world’s largest show and tell. It’s chock-full of off-beat projects—complete crafter heaven—with a growing/gardening section.

*You Grow Girl* [www.yougrowgirl.com](http://www.yougrowgirl.com)

Canadian-based site for the alternative gardener. Good forum for projects and a nice show-and-tell section.

*Guerrilla Gardening* [www.guerrillagardening.org](http://www.guerrillagardening.org)

This site started as a blog, but has become a huge forum for those who care about neglected public spaces. Great community section where you can find out what’s happening in your area and get involved. Good way to pick up gardening skills and meet other green minds.





# D.the Directory

Deciding what to grow can be a bit daunting when you first start out. Even if you've narrowed it down to vegetables or flowers, how do you decide what to try first? Start with some of the following cheap and easy vegetables, herbs and flowers that are as happy in containers as they are in the ground.

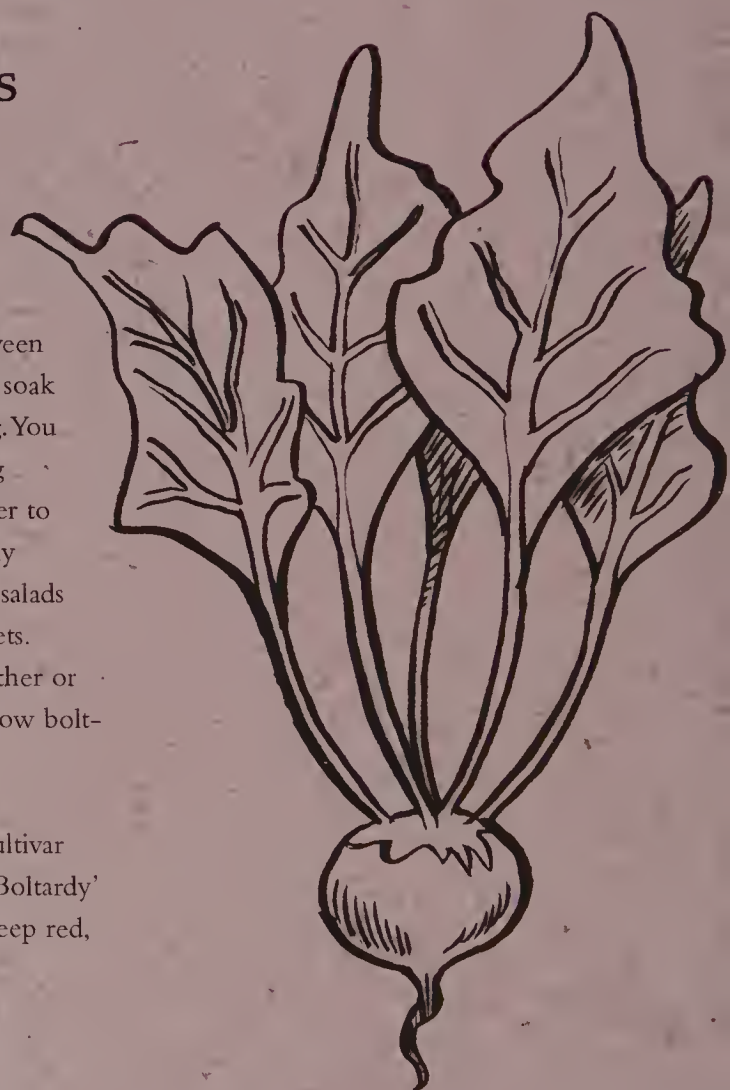
## Top vegetables

### Beets

The lovely thing about beets is that they grow themselves, you can't fail to get a crop. Sow seeds roughly  $\frac{3}{4}$ in. deep with 8in. between rows. In wet weather or wet soil, soak the seed overnight before sowing. You can sow them at the final picking distance—about 8in.—but I prefer to sow about 2in. apart and gradually thin, taking out young leaves for salads and small beets to eat as baby beets.

Beets bolt quickly in hot weather or when there isn't enough water. Sow bolt-resistant varieties.

*Cultivars* 'Chioggia' is an old cultivar with stripy white and red flesh. 'Boltardy' doesn't bolt easily, 'Forono' is a deep red, long type.



## Swiss chard

Swiss chard is easy, pretty, and adaptable. Handsome enough for the flower garden, you can eat it right up till the first frost, plus it grows in shade. Some cultivars have brightly colored stems. Sow ½in. deep and 8in. apart, thinning to 18in. apart. If you are growing in a container, make sure it is at least 12in. deep. Harvest leaves from the outside, by pulling rather than cutting them, using thinnings for salads.

I've been lazy and left frosted plants in containers only to get a second flush of leaves in spring before they went to seed.

*Cultivars* 'Rainbow Chard', 'Bright Lights' includes red, orange, yellow, purple, and pale green stemmed plants.

## Potatoes

It's easy to think that potatoes aren't worth bothering about. They are readily available, cheap, often local and if you've ever seen a potato field, you might think you need a lot of space. Suprisingly, you can become a good potato grower with hardly any space and no bare soil. Potatoes are such prolific growers that they'll happily produce a good crop in an old compost bag, a garbage can, or large pot. In a very small space, you can grow a decent crop of fresh new potatoes when the ones in the stores are at a premium. Potatoes are categorized according to how long they take to crop. Earlies take around 90 days, mid-season around 110 days, and late-season up to 160 days. In limited space, grow earlies and mid-season types—new potatoes.

Don't plant any old sprouted grocery-bag potato, but start your crop with seed potatoes from a garden center, mail-order

## Top ten tips for healthy vegetables

1. Choose a sunny spot. Few vegetables like the dark. Parsley, mint, mizuna, spinach, and Swiss chard will cope in light shade.

2. In the ground, specific families of vegetables need to be grown in a different part of your garden each year—in rotation. The four basic groups are legumes (beans and peas), tomatoes and peppers, onions, and brassicas. Never follow like with like.

3. Successional growing keeps you fully fed. If there are crops you particularly like, and you've got the space, sow them every two or three weeks from late spring until mid summer.

4. Water the seed row first, then sow. This way you won't water the weed seeds.

5. In wet, cold weather sow more shallowly to stop seeds rotting.

6. If water is an issue, concentrate on watering when the fruit begins to crop.

7. Brassicas (e.g. cabbages, kales, and broccoli) do best in firm ground. Tread down the soil when you plant and keep firming soil around plants as they grow.

8. The larger the spaces between root vegetables, the bigger they grow.

9. Grow nectar-rich flowers among your vegetables to encourage beneficial insects. Pot marigolds, California poppies, coneflowers, poached-egg flowers, and nasturtiums all attract friendly insects that eat pests.

10. Feed your soil with garden compost. Healthy soil means healthy plants.

catalogs, or a local farmers' market if you're lucky. These potatoes are actually cuttings (a bit of potato with an eye) that are certified against the main diseases that infect potatoes. These diseases can stick around for ages—think of the Irish Potato Famine—so be sure to start with good stock.

Most growers recommend presprouting potatoes before you plant. Presprouting is when you start the tubers (seed potatoes) indoors. The potato will start to sprout and, when the sprouts are around 1in. long and the weather is right, you plant them out.

But I confess that I never bother.

The lazy way to grow spuds is to fill the bottom of a large (8 gallon) container such as a garbage can with about 10–12in. of multipurpose potting soil. Place at the most two potatoes on top and cover them with more soil. As they start to shoot up out of the soil, cover them with more potting mix. Keep doing this till you have reached the top of your container. If you are growing in plastic bags, roll down the bag at the beginning and roll it up as you go along—don't forget to punch some holes at the bottom for drainage. Potatoes



need water, especially if they are in containers. In hot weather you should water every day.

Growing potatoes in the soil is just as straightforward. Some books will try to blind you with arcane knowledge and put off all but the brave for life. But the greatest potato grower I know told me that in busy years he digs a hole about 8in. deep, fills it with all the weeds he's dug up from round about, puts his potato in, back fills it, and that's it. If you've got ground to fill, space your potatoes roughly 12–15in. apart in rows 15–20in. apart.

Harvest potatoes once they finish flowering, when their leaves start to turn yellow and wilt. If you are growing in containers, tip the whole tub onto a tarp or a split plastic sack to stop the soil from going everywhere and sift through to find the potatoes. Use the old potting soil as mulch. Ground-grown potatoes are harvested by digging whole plants out with a fork and picking off the individual spuds. Store in a cool, dark space.

**Cultivars** An excellent new potato is 'Dark Red Northland', with its lovely, deep red skin and delicious taste. It is very early, so you can have it in and out and get another crop in its place.

'Superior' is a good early potato for containers, good for roasting or baking.

'Yukon Gold' is a great yellow-fleshed potato that's excellent boiled, baked, or in salads. 'Kennebec' is a late-season variety with good yield and quality.

## Garlic

Many of the gardening fraternity will frown, but I admit I never buy special,

horticulturally produced garlic. I just use whatever I've got in my pot in the kitchen. It's not tested against disease, but it is very cheap. I take the biggest, plumpest cloves and in late November I push them 3in. or so into the soil, in a pot or in the garden, flat end first. If your soil is very heavy, you can get away with much shallower planting, as long as they're covered by 1in. of soil. In snowy areas, try to plant them a bit earlier. Leave about 4in. between cloves and 8in. between rows. An open and light spot is best. If you want to buy horticultural garlic, remember to split the bulbs to plant single cloves.

I don't water garlic in the ground, but in pots you'll have to. By mid to late summer, when the leaves start to turn yellow, pull up the bulbs and you've got garlic. You must harvest before the leaves are wilted or the bulb will start to rot. Some years there is a lot of rust around (yellow pustules along the leaves and stems) so harvest your bulbs early if the stems are covered with rust, even if it seems too soon.

Garlic needs around ten days of cold to initiate bulb production, which is why it's best to get them in before Christmas, but you can plant as late as February. If you do that, you can harvest bulbs of delicious 'green' or 'wet' garlic in late summer. You use whole bulbs fresh—wonderful in soup.

If you're not planting a delicious clove from some farmers' market, look for 'German Extra-Hardy', or 'New York White'—good taste, good size, and stores well.

## Tomatoes

Thanks to a greater interest in heirloom varieties, and online catalogs, there is no need to ever eat a watery, tasteless tomato again. You don't have to stick to red, you could try yellow, pink, white, black, striped green, or orange and purple.

Tomatoes have three distinct growing habits. Indeterminate, or tall, types are best



for gardeners with plenty of space. Bush, or determinate, are smaller, and can be caged and grown in rows or used in large pots. Dwarf types are for pots, hanging baskets, windowsills, and for edging borders. Tall ones need pinching out, staking, and having their side shoots removed. Bush are sprawling plants that don't need any pinching or staking. If you're not going to be around a great deal for your tomatoes, then go for bush, as they require less work.

Tomato seeds need heat to germinate, but they germinate fast and they are really tough—I've seen them come up in cracks in pavements. Even seeds from your canned plum tomatoes will germinate just fine, but as most of these varieties come from warm climates you'll probably have to grow them under cover. Don't be tempted to germinate too many tomatoes though, five plants in a small garden or patio is plenty.

Wait until all signs of frost have passed before you put young plants out, and you may still need to protect them through cool nights—placing cardboard boxes over small plants works well. If you want to grow them in rows in the ground, leave 18in. between plants and 24in. between rows. In pots, grow a single tomato in a large pot. Potting soil bags are a good cheap option; lie a bag on its side on the ground, so that it has maximum depth for root run, make some drainage holes along the base and plant two tomatoes per bag.

Tall varieties need staking as they can't support their own weight once they fruit. A good stake needs to be 5 to 7ft. long, driven in well clear of the rootball. Tie around the stake tightly and loosely around the stem, just below a leaf. Once the first flowers appear and start setting fruit, start

weekly watering with a liquid tomato fertilizer—potash-rich comfrey or nettle tea is best for this.

You need to remove some side shoots on tall types to increase productivity. True leaves are at right angles to the stem and the ones that sit at 45-degree angles are the side shoots. If you rock the shoot back and forth, it will snap off without tearing the stem. Also remove any shoots that appear at the very base of the plant. You'll need to stop the plants when six or so trusses of fruit have formed, which is when you pinch out the top of the plant to stop it growing. When all the fruit are ripening well, you can remove half the leaves from the bottom to middle of the plant. This will help the tomatoes to ripen better.

In wet, warm summers, the chief tomato killer is blight. It starts with chocolate-brown patches on the leaves and leads to blackened stems and fruits. It kills quickly and a tomato that looked fine in the morning can be covered by night. Spraying with copper sulphate (Bordeaux mixture) can stave off the worst, but inevitably the crop is lost. It is very important not to bring home diseased plants.

If frost is on the horizon and you have any unpicked fruit, cover the whole plant with sheets or plastic film. Toward the end of the season you can pull a whole plant up by the roots and hang it indoors, the green ones will ripen on the plant.

*Cultivars* Best cherry tomatoes:

'Gardener's Delight' (best starter tomato); 'Julet Hybrid,' 'Sweet Gold.'

Standard: 'Better Boy,' 'San Marzano'; 'Beefinaster,' 'Celebrity.'

Heirloom: 'Green Zebra,' 'Yellow Pear,' 'Red Pear,' 'Brandywine,' 'Cherokee Purple.'

Dwarf types: 'Tiny Tim,' 'Yellow Canary,' 'Florida Basket,' 'Micro Tom.'

## Summer squash and Zucchini

Squash and zucchini are great plants to start with. It's a myth that you need a lot of space because you don't need a lot of plants. Although bush types do need to be spaced 2 to 3ft. apart in both directions in the ground, they will grow just as well in a large container, or in bags of potting soil, one plant to a bag. Give vining types 3 to 4ft. on all sides. One plant will give you more fruit than you know what to do with. Two will feed a family, three and you'd better find a zucchini bread recipe!

There are round and long ones, and some that only produce flowers for stuffing. I'm fond of Italian cultivars of yellow summer squash because they look and taste good.

Always start these plants in pots rather than straight in the ground as the risk of rotting seed is too great. Indoor germination definitely gives you a head start, sowing seeds a month before the last frost, but starting the pots outdoors means sturdy seedlings as seed germinates as the soil temperature rises. Plant out when you have two true leaves and a third on its way.

Squash and zucchini often get mildew toward the end of a warm, damp season. Don't worry, healthy plants continue to produce plenty of fruit. Pick fruit when they are firm and small, large fruit turn woody and aren't good to eat. Twist at the base if you don't have a knife. The more you pick, the more the plant produces.



**Cultivars** My favorite are 'Yellow Crookneck' and gray-green 'Costa Romanesco.'

'Patty Pan' is a lovely scalloped squash, good raw in salads or stir fries. 'Flying Saucers' is a green and yellow patty-pan type.

## Cucumbers

Cucumbers are classified as outdoor slicing types – and indoor types. Outdoor types are tougher, with a greater resistance to pests, diseases, and low temperature, so stick with them. Heirloom cultivars may have round or oval fruit—they're juicy and well-flavored—and some have rough, prickly skins that need to be peeled before eating. Japanese or Burpless hybrids are smooth skinned, large, and bred to be vigorous. Gherkins are sprawling smaller plants with fruit that can be eaten raw, but are mainly grown for pickling.

Cucumbers need at least 68°F to germinate and hate to be moved. Sow two or three seeds per pot and remove the weakest one after germination. Don't put them outside until there is a minimum temperature of 60°F. Cucumbers need plenty of light and moisture, but don't drown the seedlings. Harden off for at least two weeks in a cold frame, and plant out well after the last frost when there are two true strong leaves and a third on the way.

Grow cucumbers up a frame or tripod, tying them when necessary, and expect the plants to get 4 to 6ft. tall. Nip out the growth point when each plant reaches the top of its support. Cucumbers need to be well watered once fruit forms. Lay any lower fruits on a slate or piece of wood as soon as they appear so they don't sit on

soil and rot. They won't withstand severe cold, so pick all fruit before frosts threaten.

Slugs love young plants, and aphids both eat them and transmit mosaic virus, which looks just as it sounds. Healthy plants can grow through mosaic virus, but yields are affected. Remove distorted leaves on older plants.

**Cultivars** 'Marketmore' (prolific and mildew resistant), 'Burpless Hybrid,' 'Olympian.'

Heirloom: 'Lemon Cuke' and 'White Wonder.'

## Snap and Snow peas

Peas are really pretty plants, perfect for patios. A single row or pot makes for good pickings for salads though you have to grow a lot for main meals. I love to make a salad of raw peas, spinach, and really good feta cheese.

Peas are either suitable for spring to summer sowing or for late summer. If you are planting in pots, always choose dwarf or shorter varieties—some sugar snap peas grow up to 5ft. and by the time you've staked the pot, the whole thing falls over. Sow summer crops every two weeks from April to June for a continuous supply. Sow peas 2in. apart, with rows twice that far apart. In a pot, I tend to plant in two concentric rings, with the stakes in between.

Mice love peas and will happily find and dig them up. To discourage them, you can either dip the peas in paraffin or buy a child's plastic snake and lay it on top of the soil. You'll need to move the snake every now and then, but since the mice come out at night they won't risk exploring to see if it's real.

Once pea seedlings appear, slugs will

get them if you haven't laid appropriate defences. And they will need supporting from around 3in. tall. You can buy pea netting very cheaply and support it on posts, or make a teepee of sticks in a pot and wrap string around it. It's important to keep weeds down so mulch around young plants with a 2in. layer of grass clippings or cardboard, or keep on top of the weeding.

Water well in dry weather and pick peas from the bottom of the plant up. You can also eat the pea shoots at the very top of the growth raw in salads. When all the peas are picked, cut the plant, rather than pulling it up. The nitrogen-rich nodules on the roots will put goodness into the soil for the next crop.

**Cultivars** 'Oregon Sugar Pod' (very sweet), 'Sugar Sprint' (doesn't need stringing), 'Sugar Ann' (early and sweet), 'Snow Green' (flat snow peas on 2ft. vines).

## Radishes

Radishes are the quickest crop, 6 to 8 weeks from sowing to eating, and you can start in February and continue to early September. They become a bit woody in summer so sow a new crop every ten days to two weeks. Round radishes such as 'Cherry Belle' stay crisp longest. The first cropping tends to be very mild—hot radishes come later in the year.

You can slip in a short row of radishes whenever you get a bit of space in the ground, for example as you clear part of a row of lettuces, follow it up with a sowing of radishes. This is known as a catch crop. Sow seeds thinly in the ground, leaving about 6in. between rows, but scatter them liberally in containers and thin if you need to.

Radishes in the ground only need watering in the hottest weather. In pots, water them only when dry and, if they bolt, let plants go to seed and eat the pods.

*Cultivars* 'French Breakfast' (traditional red top and white bottom), 'Pink Beauty,' 'Cherry Belle' (mild red, pink and white roots).

## Bush beans

Bush beans are best for small gardens and pot culture as they need little or no staking and crop heavily. You can't sow beans unprotected outside until well after your last frost as they need warmth to germinate. Cold, wet soil will rot seeds overnight. Indoors, you can start in pots four weeks before the last frost date, but beans are best sown out in the garden where they are to grow since they don't transplant well. Sow 2in. deep in drills with around 8in. between beans, and at least 18in. between rows. A large 8 to 10 gallon pot or wine box will take eight or so dwarf bean plants. If you sow two or three crops of beans, three weeks apart until late June, you'll have beans to pick until September.

*Cultivars* 'Heavyweight' (high yields), 'Tendergreen' (high yields), 'Royalty Purple Pod' (purple pods turn green when cooked), 'Gold Mine' (productive yellow selection).

## Carrots

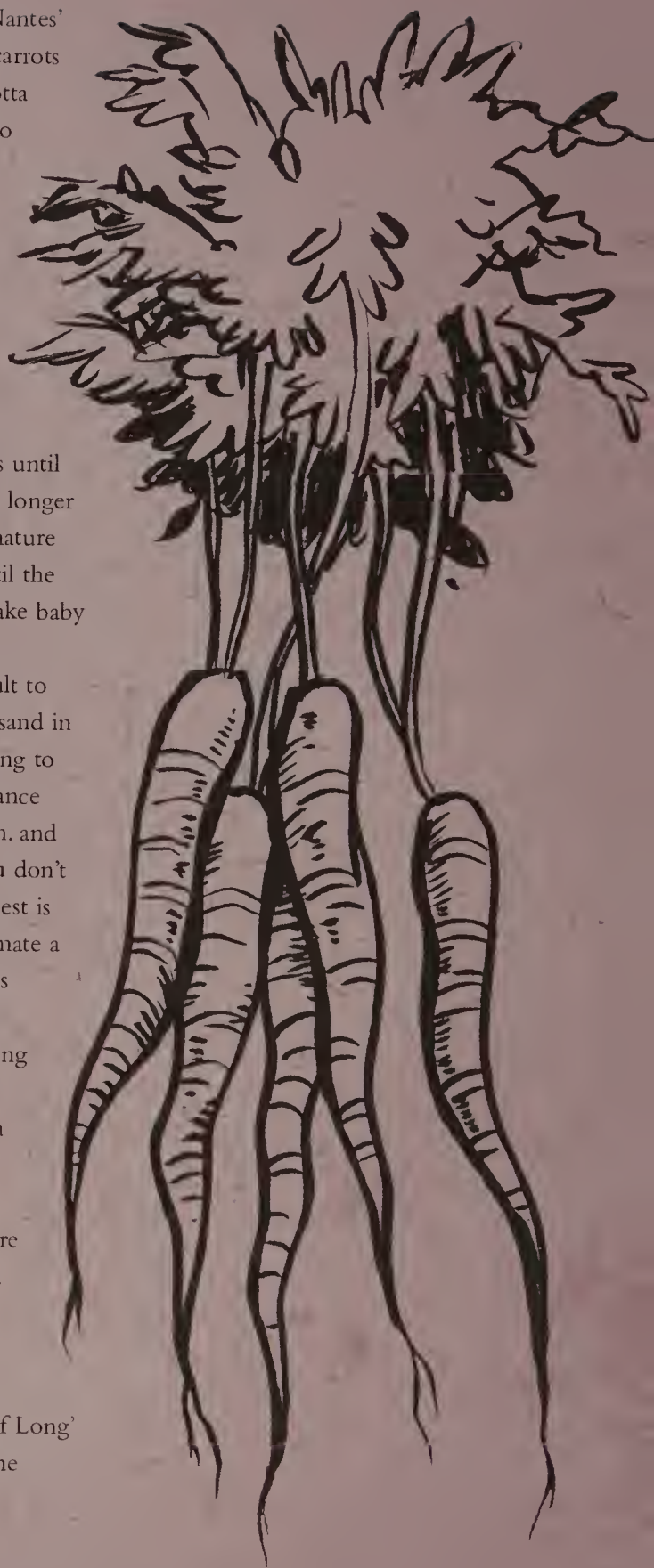
Carrots need sandy soil and hate recently manured soils—stay off farmyard muck in your bed or container mix. Short, stumpy kinds like 'Paris Market' are great if you don't have big, deep pots. Long, lean types

such as 'Amsterdam Forcing' or 'Nantes' will need deep root runs. 'Show' carrots are traditionally grown in terra-cotta land drainpipes with lots of sand to get monster-length carrots. If you find a source of clay drains or chimney pots, grab them and grow normal-sized carrots instead.

Wait until three weeks before the last frost to sow carrots, and if you have space, remember to sow every few weeks until July for a regular supply. They take longer than one might expect to get to mature size. A May sowing won't crop until the end of August, although you can take baby carrots sooner.

Carrot seeds are tiny and difficult to sow evenly; try mixing seeds with sand in the palm of your hand before sowing to help spread the seed. The final distance between plants should be about 3in. and it's best not to sow too close as you don't want to thin too often. The chief pest is carrot fly, whose maggots can decimate a row of roots in no time. Carrot flies hunt out your carrots by smell and when you thin you invite them along as you waft carrot smells around. When you come to thin, do it on a cloudy day or in the evening and water the seedlings afterward. Companion planting and barriers are good defences (see pages 147–151).

*Cultivars* 'Little Finger' or 'Thumbelina' are good stubby cultivars for containers. 'Nantes Half Long' is good for flavor and size, best in the ground.





# Your herb garden

Most garden centers sell small pots of perennial herbs very cheaply. These bulk up very quickly, so you'll be using them way before seed-sown plants. Look for thyme, tarragon, sage, and rosemary, but sow seeds of basil and chives as you'll pay through the nose if you buy these as plants.

## Parsley

Useful, tough, and pretty, parsley fares equally well in the ground and in pots. Everyone can have a pot to bring into the kitchen for winter. Curly-leaved parsley creates a mound of dark green leaves. French or Italian flat-leaved parsley is larger with superior flavor. It is best to treat parsley as an annual.

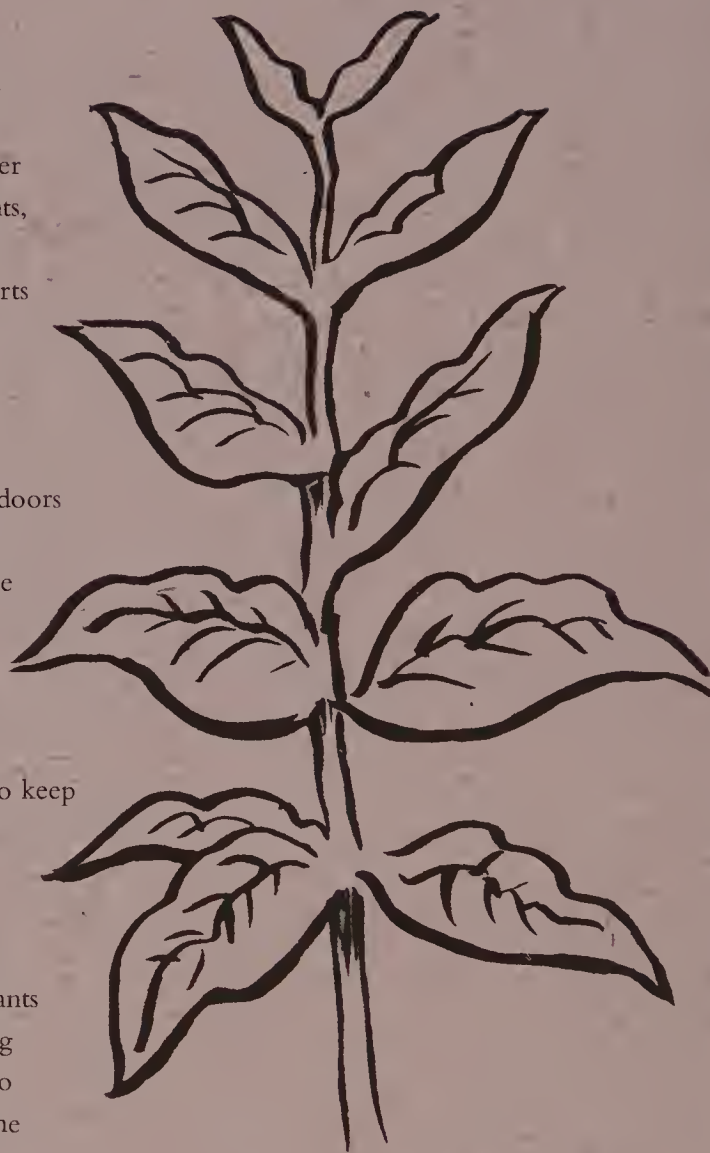
Parsley can be a brute to germinate, but it's worth the wait. It can take a month or two to show and throughout this period the soil must be kept moist. Speed the process up by pouring a kettleful of boiling water over the seeds once you've sown them, this should jump start germination. Parsley likes rich soil and can be sown as early as late winter and as late as late summer to have some plants to bring in for winter. Plants can be squeezed together, with about 3in. between them. For overwintering, sow in pots.

## Basil

Basil is one of the most useful annual herbs. The laziest method is to buy garden-center plants, separate individual plants, and pinch out tips before replanting. But there are all sorts of varieties to try, apart from the usual large-leaved green basil.

Basil needs warmth to germinate, 55–60°F, so sow indoors from late winter on a sunny windowsill or outside once the soil has warmed up. On a windowsill sow into a 3in. pot, cover the seeds with a little potting mix, and seal the pot in a clear plastic bag to keep moisture in. Remove the bag only once you see small seedlings. Transplant when large enough to handle. You'll need to harden off indoor plants in a cold frame before planting out. If outside sowings seem to be slow to germinate, water the ground a little as sometimes it's too dry to kick-start germination.

'Sweet Genovese' has by far the best flavor for pesto and salads. Greek or bush basil has tiny, pungent leaves and forms an attractive light green mound. It seems to withstand cold and the wet summers other basil's hate; even slugs and snails don't trouble it as much and it is very late to flower, so you get a large crop of leaves first. Thai basil is licorice flavored with purple and pink flowers and purple-tinged



leaves, pretty enough to hold its own in window boxes or flower gardens. Lemon basil is tricky in anything but the best conditions, but delightful on a sunny kitchen window.

## Sage

Culinary sage is a hardy evergreen perennial, great for the kitchen and lovely with your flowers. Purple-leaved sage makes a particularly attractive backdrop in

your beds. Pineapple sage and tangerine sage, both tender perennials, are pretty in beds and even better made into fruity herb teas.

Cuttings or small plants are the easiest way to get sage established. Take 3in. long, stem-tip cuttings in April or May from friends' plants and root these around the edge of a 6in. pot in free-draining potting soil. Keep plants in the cold frame until rooted.

Although culinary sage is perennial, it tends to get leggy and wear itself out, or if it favors a particular spot it can get huge. So either take cuttings or prune ruthlessly in spring.

## Marjoram

Cultivated forms include sweet marjoram, which only survives a winter in a warm climate, and the reliable perennial pot or sweet marjoram. It needs a fairly rich soil and full sun, and can be sown indoors from March and outdoors from May. It can be slow to germinate so be patient, you won't get a crop until the end of the summer. The hungry or impatient should bypass the seed stage by buying cheap plants. Once you have an established plant it's easy to make more by dividing your clump in spring or autumn, or taking cuttings in early summer.

Marjoram dies back in winter, but if you're growing it in a container cut the whole plant back hard in summer and bring the pot indoors for winter. That way you'll get a fresh flush of leaves for winter cooking.

## Chives

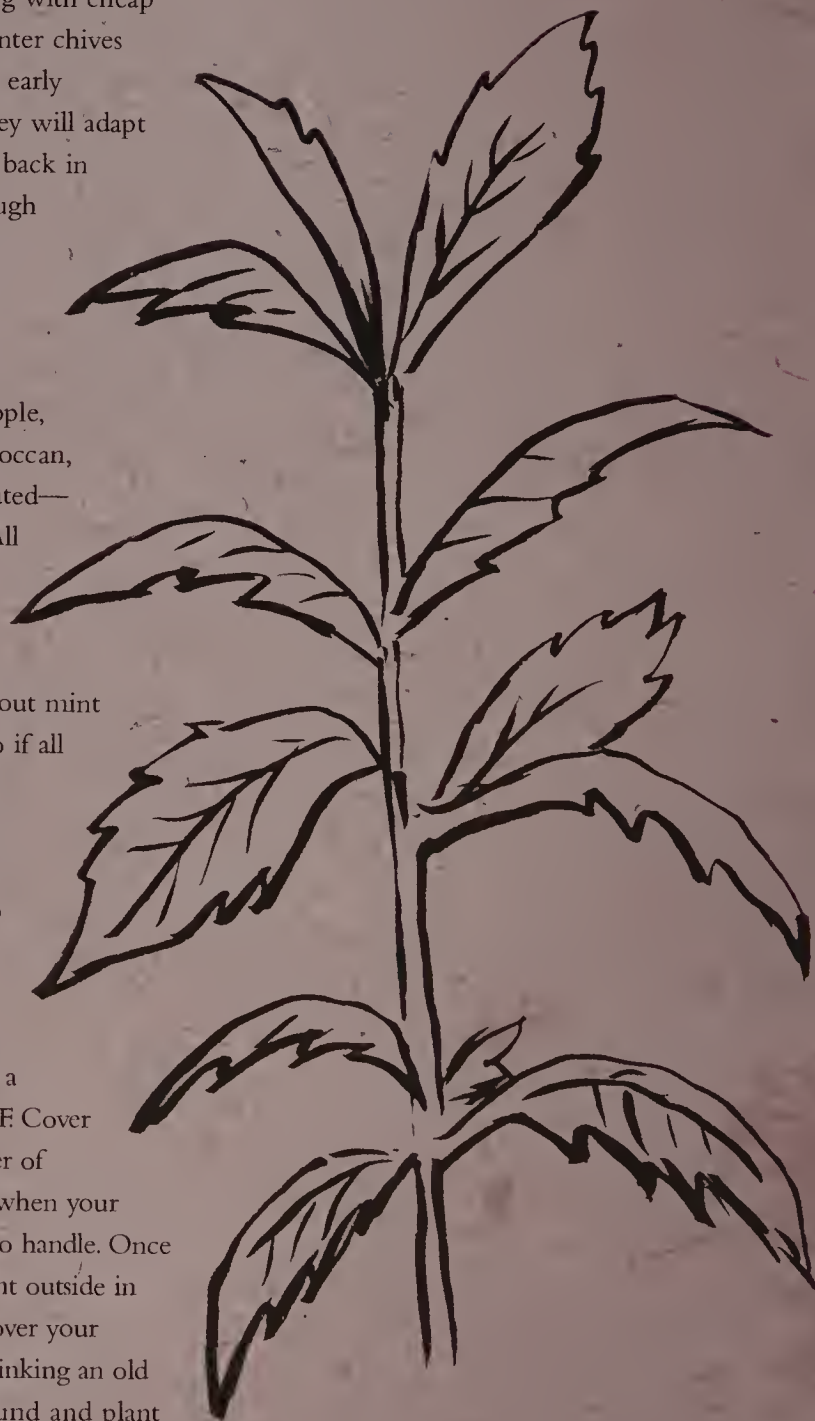
Chives are easy to grow from seed sown indoors or out in late spring and early summer, you'll be picking by midsummer.

You can also cheat, starting with cheap supermarket or garden center chives in pots. Plant these out in early summer and with luck they will adapt to life outside. Chives die back in winter, but are hardy enough to make it through all but the worst winters.

## Mint

Spearmint, peppermint, apple, grapefruit, pineapple, Moroccan, woolly-leaved, and variegated—there are so many mints. All are perennial, most are extremely tough, and many rampantly invasive. The best thing about mint is that it will take shade, so if all you have is a north-facing windowsill, get into mints. Mint is happy in pots, but prefers moist, fertile soil so keep it well watered.

If you can't get a root or two from a friend, sow mint from April to May on a windowsill at about 60–70°F. Cover seeds with a fine, sieved layer of potting mix and transplant when your seedlings are large enough to handle. Once things have warmed up, plant outside in June. To avoid mint taking over your garden, restrict its roots by sinking an old pot or bucket into the ground and plant into this.





## Thyme

Thyme is another perennial that's great for a neglectful gardener. It doesn't mind drought, poor soils, and baking sun. Even in a pot, it will survive abuse that has most other herbs giving up the ghost. Lemon thyme is beautifully scented, but hates cold, wet winters. Common thyme is the toughest and the most universal. If you buy plants, check you're getting an edible kind as there are many, many varieties out there and some really don't taste good. Thyme is cheap and easily available from the garden center, but it's quickest from cuttings or divisions in spring or autumn if you have a friend with a tasty variety. Plant outside from mid-spring onward.

The trick with thyme is to cut plants back hard in June, this way you get a second flush of young, bushy growth for the rest of summer. If you have inherited a leggy thyme, cut it back hard in spring—apart from one leggy stem that you should bury in good potting mix (just chuck it over the plant so that a few leaves poke out). You'll be surprised how quickly it will rejuvenate.

## Rosemary

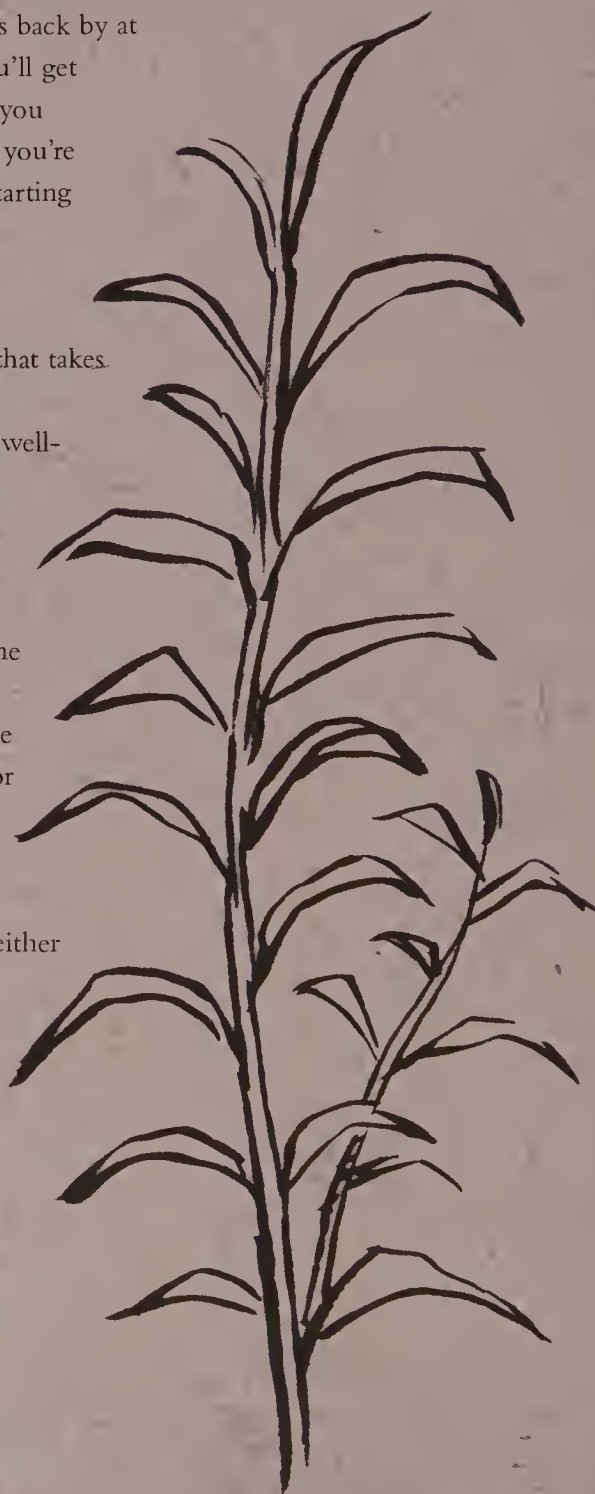
Rosemary has delicate blue to palest blue flowers much loved by bees so it's a lovely addition to any garden. It is a tender, perennial shrub that will grow to a great size from Zone 8 south if left to its own devices, or you can choose a prostrate form to cover the ground. Pink- and white-flowered rosemaries exist, but I don't think anything beats the traditional pale blue.

Rosemary likes very well-drained soil and full sun. It is just as happy in a pot as in the ground. *Arp* is an extra-hardy cultivar reportedly robust to Zone 7. If you have an overgrown plant that is still vigorous rather than woody, cut all stems back by at least half in mid-spring and you'll get attractive, bushy growth, but if you inherited a really woody plant, you're better off taking cuttings and starting again.

## Tarragon

French tarragon is a fine herb that takes your cooking up a step or two. Tarragon thrives in full sun, in well-drained soil—think south of France. In cold winters or on poorly drained soil, tarragon sheds its leaves, sulks, and then gives up the ghost. Offer it some protection from the rain and cold—a really large water bottle used as a cloche works well—or find a very sheltered, dry spot as cold, wet conditions do the most harm.

It is not easy from seed, so either buy a plant or get hold of an underground runner or late spring cuttings from a friend. Don't be fooled by Russian tarragon, it's not the same flavor at all.



# Favorite easy flowers



## **Godetia *Clarkia amoena***

I think godetias are considered a bit common by the horticultural fraternity, but I love them, especially the pure pink ones. The reason I really like them is because in the wettest summer they'll flower their socks off, and yet they'll do the same in a baking hot year. Direct sow these annuals by scattering them over a prepared seedbed, then gently raking them in. They'll do the rest. They look a bit like an evening primrose flower, but come in a variety of acid tones—brash, but beautiful.

## **Morning glory *Ipomoea tricolor***

Morning glory is a beautiful annual vine, closely related to the beastly bindweed—but it doesn't take over because it dies back each winter. 'Heavenly Blue' bears brilliant sky blue flowers with white throats. It will

quickly cover a wall or fence and can cope with heat and drought. Give it a trellis in a baking corner and once it starts flowering it won't stop till the first frosts.

You can direct sow, but morning glory likes a week or more's continuous warm weather to germinate so it's usually better to start it off on a warm windowsill in individual pots. There germination will be quick and, the minute you see green shoots, move the pots or trays somewhere a little cooler. Plant out from late spring and give the plants a structure to clamber up.

## **Cornflower *Centaurea cyanus***

A tall, upright annual much loved for its clear blue flowers. It is perfect for filling sunny gaps in new gardens where it will often freely seed to come up year after year. It generally flowers in early summer, but sometimes it does the opposite and flowers in late August.

The wild blue cornflower is an attractive plant in its own right. Mixes offer blooms in colors ranging from pale pink to deep purple. All do best on fairly poor soil; if it's too rich they flop. Sow direct into the soil, ½in. deep, either in autumn or as soon as the soil has warmed up in spring. You don't need to thin or feed them and they make lovely cut flowers.

## **Mountain cornflower *Centaurea montana***

One of the easiest flowers to please, centaurea has a generous spreading habit and is covered with blue and purplish blooms from late spring right through summer—with a bit of deadheading. It

will tolerate very poor soils and a fair amount of shade. It's a self seeder, so once in your garden it tends to move itself around. It has deep, rhizomatous roots, so it can be a bit of pain to get rid of if you decide you don't like it.

## **Love-in-a-mist *Nigella* species and *Nigella papillosa* 'African Bride'**

Another generous flower that will spread itself around once it gets established. Love-in-a-mist is a hardy winter annual so you can scatter seed in autumn, forget all about the snow and frost and still find seedlings in spring. It has star-shaped flowers, from sky blue to deep purple, and a cloud of fluffy, pale green foliage, but most people know it best for its attractive, inflated seedpods. It makes a lovely cut flower at every stage, but I like to leave the seedheads for winter interest. There are white, pink, purple, and blue forms, but you won't go wrong with the wild form. I'm fond of the cultivar 'African Bride,' which is white with deep maroon stamens.

## **Nasturtium *Tropaeolum majus***

Nasturtiums will do their best to climb so you can train plants over a fence, but I think they look best scrambling and make an ideal summer ground cover. Nasturtiums are cheerful, drought-hardy, and they thrive in poor soils, plus you can eat the flowers—and the foliage. Don't feed them or you'll get more leaves than flowers.

Nasturtiums can tough it out almost anywhere so they're ideal for window boxes and hanging baskets. Sow the seed



direct from April to June, just under 1in. deep, and keep the soil moist until the seedlings appear. Once the seedlings are large enough to handle, you can thin to 12in. apart and you'll get really big bushy plants and flowers from June to October. Nasturtiums come in lots of different colors from palest yellow to deep, dark red and some really garish ones with variegated foliage. Some forms scramble, some are dwarf and bushy.

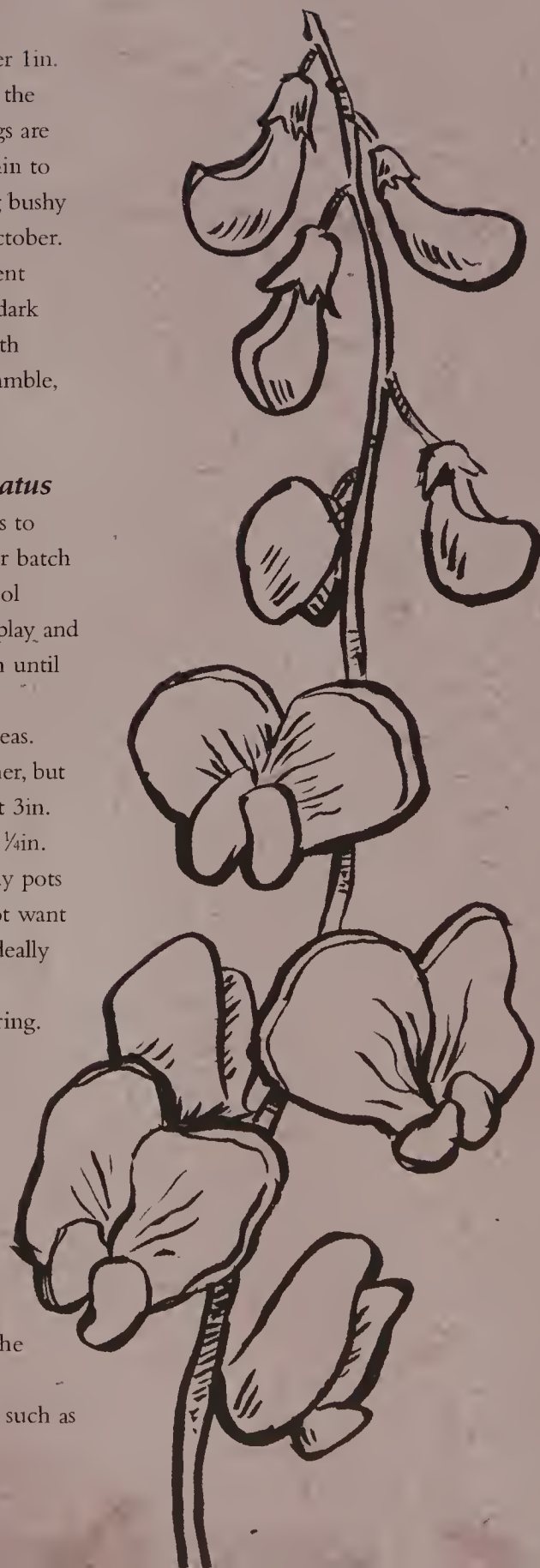
### Sweet peas *Lathyrus odoratus*

The trick with annual sweet peas is to sow a batch in autumn and another batch in spring, this way in areas with cool summers, you will have a great display and picking from mid-summer through until the frost.

Sweet pea seeds look just like peas. They don't like hot summer weather, but for autumn sowing use pots at least 3in. deep, sow two seeds per pot about ½in. down—toilet roll tubes make handy pots for the deep roots, but you may not want these hanging about for months. Ideally seedlings can be overwintered in a cold frame to plant out in early spring.

You'll need to guard against slugs, mice, and pigeons in particular. In spring, sow outside where the plants are to grow any time from March on, as long as the soil is not too cold. Or sow early March inside as for autumn sowings in pots. When seedlings are 4in. or so, pinch out the growing tips to get bushier plants.

Give sweet peas a good support such as



a teepee with string wrapped around it. You may need to tie them in from time to time. The more you pick, the more they'll flower. Sweet peas don't like to be too dry or they'll get mildew and stop flowering. The richer the soil, the better the plant. If growing in the ground, dig in some homemade compost a couple of weeks before planting out—this will conserve moisture and give plants an added boost.

Many of the modern hybrids are scentless, so make sure you pick a packet that says it's scented. 'Old Spice Mix' and 'Cupani' have particularly strong scent and lovely bicolored maroon flowers.

### Sunflowers *Helianthus* spp.

These days, sun-loving sunflowers come in many more hues than the traditional yellow. 'Velvet Queen' is a rich dark orange annual and, at the other end of the spectrum, is the perennial 'Lemon Queen,' which has palest lemon-yellow flowers.

Most sunflowers are cultivars of the fast-growing *Helianthus annuus*. There are short sunflowers for windowsills and extra-tall ones for children. I like to sow mine in pots because slugs are very partial to young seedlings. Sow between April and early June (staggered sowing gives staggered flowering), ¾–1in. deep, in good potting soil. Plant as close as 6in. apart if you want to screen off an ugly wall or 12in. apart for bushier plants, and keep them well watered. Sunflowers make very good, long-lasting cut flowers.

When they've flowered, you can either be generous and leave the seedheads for the birds, who'll quickly devour them

come late autumn, or you can chop off the heads and eat the seeds yourself. Whatever your preference, save some for sowing next year.

### Pot marigolds *Calendula officinalis*

Bright orange marigolds bloom almost continually from early to mid-summer. They are edible and pretty in salads and can also be cut for the vase. In mild climates, pot marigolds act as short-lived perennials and you can cut back old stems to get new growth. In colder climates, treat them as annuals—pot marigolds produce dozens of curved seeds per plant and self seed freely, or it's easy to collect the seed and scatter it around. If you're using them to edge a border or grow in tubs, sow seeds  $\frac{3}{4}$ in. deep after frost in the final flowering positions.

### Annual poppies—*Eschscholzia* and *Papaver* spp.

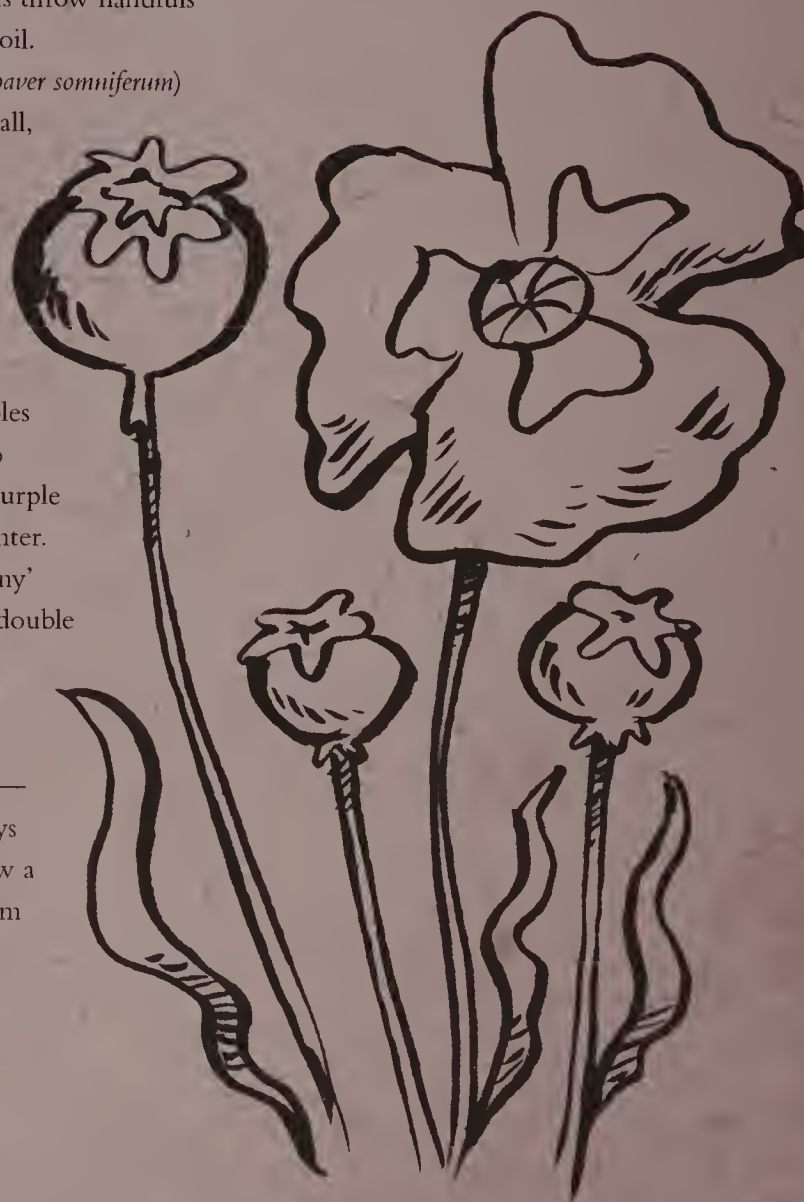
The California poppy (*Eschscholzia californica*) has lovely, clear orange flowers and attractive, fern-like, grayish foliage. It loves sun and doesn't mind drought—perfect for gravel gardens or baked, sunny areas. Direct sow in warm spring soils. Rake the area and sow seed thinly,  $\frac{1}{4}$ in. deep. It needs 59–64°F to germinate.

I never bother to thin, just let the strongest muscle it out. Breeders have been developing California poppies for around a century, so there are dozens of colors out there. Just choose what will go with your color scheme. I particularly like the palest yellow 'Buttermilk' and the deep rich reds

and yellows of 'Strawberry Fields.' Once established, most clumps will re-seed themselves each year.

The Shirley poppy is a selected form of the wild field poppy (*Papaver rhoeas*). The true Shirley Series have single flowers in clear shades of white, rose, and salmon, but there are all sorts of strains on the market. Some are lovely, some not. 'Mother of Pearl' has particularly pale flowers. Sow direct, which simply means throw handfuls around in recently raked soil.

The opium poppy (*Papaver somniferum*) is a large annual, 1–1.5m tall, with fleshy grey leaves, large flowers, and prominent seedheads. The large selection includes double or paeony-flowered forms, and colors from dark purples and pinks right through to white. Most have a deep purple to black staining in the center. The darkest is 'Black Paeony' with deep purplish black, double flowers; the palest 'White Cloud' with pure white flowers. The trick with bountiful amounts of seed—seed swapping events always have bags of it—is to throw a handful out each week from February to May.





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*For Emily Castles*

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